

SONY®

COLOR VIDEO CAMERA

BVP-500

BVP-500P

Digital 1000

MAINTENANCE MANUAL

Volume 1 1st Edition (Revised 1)

Serial No. 15001 and Higher (UC)

Serial No. 45001 and Higher (CE)

Serial No. 50001 and Higher (UC/CE)

警告

このマニュアルは、サービス専用です。

お客様が、このマニュアルに記載された設置や保守、点検、修理など行くと感電や火災、人身事故につながる可能性があります。

危険をさけるため、サービストレーニングを受けた技術者のみご使用ください。

WARNING

This manual is intended for qualified service personnel only.

To reduce the risk of electric shock, fire or injury, do not perform any servicing other than that contained in the operating instructions unless you are qualified to do so. Refer all servicing to qualified service personnel.

WARNUNG

Die Anleitung ist nur für qualifiziertes Fachpersonal bestimmt.

Alle Wartungsarbeiten dürfen nur von qualifiziertem Fachpersonal ausgeführt werden. Um die Gefahr eines elektrischen Schlages, Feuergefahr und Verletzungen zu vermeiden, sind bei Wartungsarbeiten strikt die Angaben in der Anleitung zu befolgen. Andere als die angegeben Wartungsarbeiten dürfen nur von Personen ausgeführt werden, die eine spezielle Befähigung dazu besitzen.

AVERTISSEMENT

Ce manuel est destiné uniquement aux personnes compétentes en charge de l'entretien. Afin de réduire les risques de décharge électrique, d'incendie ou de blessure n'effectuer que les réparations indiquées dans le mode d'emploi à moins d'être qualifié pour en effectuer d'autres. Pour toute réparation faire appel à une personne compétente uniquement.

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Manual Structure

Purpose of this manual

This manual is the maintenance manual for Color Video Camera BVP-500/500P. This manual describes the information items necessary when the unit is supplied and installed, items on maintenance, and items that premise the service based on the components parts such as alignment, schematic diagrams, board layouts and spare parts list, assuming use of system and service engineers.

Contents

This followings are summaries of the each section for understanding the manual.

Maintenance Manual Volume 1

Section 1. Installation

Describes information about connector input/output signals, instance of configuration and function of internal switches.

Section 2. Service Overview

Describes information about board locations, circuit description, replacement of part and notes on services.

Section 3. Setup menu

Describes information about setup menu and self-diagnosis mode.

Section 4. Alignment of OHB Installation

Describes adjustment necessary for installation of OHB.

Section 5. Overall Electrical Alignment

Describes electrical adjustment necessary for maintenance of the unit or replacement of parts.

Maintenance Manual Volume 2

Section 1. Spare Parts

Describes parts list, exploded views, supplied accessories and fixtures list used in the unit.

Section 2. Semiconductor Pin Assignments

Describes function diagrams and pin names of semiconductor used in the unit.

Section 3. Block Diagrams

Describes overall block diagram and the block diagrams for every circuit board.

Section 4. Schematic Diagrams

Describes schematic diagrams for every circuit board.

Section 5. Board Layouts

Describes board layouts for every circuit board.

Relative manuals

Besides this maintenance manual the following manuals are available for this unit.

- **Operation Manual (Supplied with this unit)**

This manual is necessary for application and operation of this unit.

- **System manual (Not supplied with this unit)**

This manual is necessary for connection and operation of this unit and other peripheral equipments.

If this manual is required, please contact Sony service organization

Section 1

Installation

1-1. Supplied Accessories

Accessories	Sony Part No.	Qt'y
Fuse T2AH 250V	1-576-228-11	1
Fuses T4AH 250V	1-576-231-41	4
Angle Adjustment Brackets	2-280-511-01	2
Clamp Bands	3-186-502-01	2
Number Plate (For Rear panel)	3-167-517-01	1
Number Plates (For Side panels)	3-185-945-01	2
Number Plate (For UP tally lamp)	4-027-937-01	1

1-2. Connectors and Cables

1-2-1. Connector Input/Output Signals

Output Signals

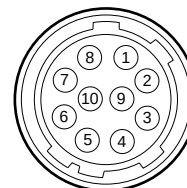
- MONITOR
BNC 75Ω 1.0 Vp-p
* Refer to Section 1-5 “Function of Internal Switches and Controls, IF-538 Board” for details.

- PROMPTER
BNC 75Ω 1.0 Vp-p

Input/Output Signals

- TRIAX
King type (for BVP-500)
Fischer type (for BVP-500P)

TRACKER (10P FEMALE)

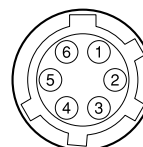


(EXTERNAL VIEW)

No.	SIGNAL	SPECIFICATIONS
1	TRACKER OUT (X)	TRACKER RECEIVE 0 dBu unbalanced
2	TRACKER T OUT (G)	GND for TRACKER T
3	TRACKER R OUT (G)	GND for TRACKER R
4	PGM OUT (X)	−20 dBu unbalanced
5	+12 V (T) OUT	+12 Vdc. 100 mA (MAX)
6	PGM OUT (G)	GND for PGM
7	TRACKER T IN (X)	TRACKER TALK
8	TRACKER T IN (Y)	0 dBu/−20 dBu High impedance balanced
9	UP TALLY OUT (G)	GND for UP TALLY
10	UP TALLY OUT (X)	+12 Vdc 200 mA (MAX)

(0 dBu=0.775 Vrms)

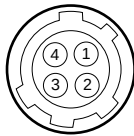
RET CONTROL (6P FEMALE)



(EXTERNAL VIEW)

No.	SIGNAL	SPECIFICATIONS
1	INCOM 1 MIC ON/OFF IN	$Z_i \geq 10 \text{ k}\Omega$ ON:GND OFF:OPEN
2	INCOM 2 MIC ON/OFF IN	$Z_i \geq 10 \text{ k}\Omega$ ON:GND OFF:OPEN
3	GND	
4	RET 3 ON/OFF IN	$Z_i \geq 10 \text{ k}\Omega$ ON:GND OFF:OPEN
5	RET 1 ON/OFF IN	$Z_i \geq 10 \text{ k}\Omega$ ON:GND OFF:OPEN
6	RET 2 ON/OFF IN	$Z_i \geq 10 \text{ k}\Omega$ ON:GND OFF:OPEN

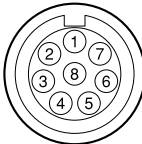
SCRIPT (4P FEMALE)



(EXTERNAL VIEW)

No.	SIGNAL	SPECIFICATIONS
1	GND	GND for POWER
2	NC	No connection
3	NC	No connection
4	+12 V OUT	+12 Vdc.

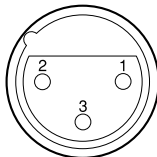
REMOTE (8P FEMALE)



(EXTERNAL VIEW)

No.	SIGNAL	SPECIFICATIONS
1	TX (+)	BVP SERIAL DATA
2	TX (-)	
3	RX (+)	CCU/MSU/RCP/CNU/VCS SERIAL DATA
4	RX (-)	
5	TX GND	GND for TX
6	POWER (+) OUT	+12 V, 500 mA (MAX)
7	POWER (-) OUT	GND for +12 V
8	NC	No connection
	CHASSIS GND	CHASSIS GND

MIC IN CH1/CH2 (3P FEMALE)

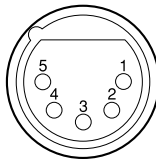


(EXTERNAL VIEW)

No.	SIGNAL	SPECIFICATIONS
1	MIC IN (G)	-60 dBu High impedance balanced
2	MIC IN (X)	
3	MIC IN (Y)	

(0 dBu=0.775 Vrms)

INCOM (5P FEMALE)

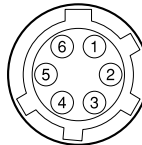


(EXTERNAL VIEW)

No.	SIGNAL	SPECIFICATIONS
1	INCOM MIC IN (Y)	-20 dBu (CARBON MIC)
2	INCOM MIC IN (X)	-60 dBu (DYNAMIC MIC)
3	GND (PGM)	
4	INCOM RECEIVE OUT	0 dBu
5	PGM OUT	0 dBu

(0 dBu=0.775 Vrms)

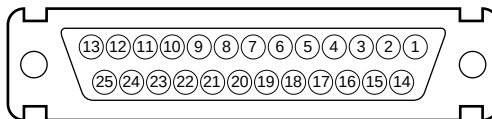
REMOTE (6P FEMALE)



(EXTERNAL VIEW)

No.	SIGNAL	SPECIFICATIONS
1	SERIAL DATA IN	Serial data for camera control
2	SERIAL DATA OUT	
3	UNREG (G)	
4	NC	No connection
5	NC	No connection
6	UNREG OUT	+12 Vdc 100 mA

VF (25P FEMALE)

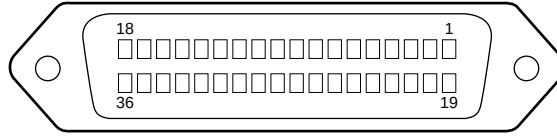


(EXTERNAL VIEW)

No.	SIGNAL	SPECIFICATIONS
1	VF R VIDEO OUT (X)	No connection
2	NC	No connection
3	VF VIDEO OUT (X)	Y/RET $Z_0=75\ \Omega \pm 5\ \% \ 1\ V_{p-p}$
4	NC	No connection
5	VF B VIDEO OUT (X)	No connection
6	RET $\overline{ON}$ OUT	No connection
7	+12 V (VF) OUT	+12 Vdc (at 2 A)
8	+12 V (VF) OUT	+12 Vdc (at 2 A)
9	UP TALLY ON OUT	ON: +12 V OFF: 0 V
10	VF RET VIDEO OUT (X)	No connection
11	R TALLY ON OUT	ON: 5 V $\pm$ 0.5 V OFF: 0 + 0.5 V
12	VF SEL COL/BW IN	No connection
13	NC	No connection

No.	SIGNAL	SPECIFICATIONS
14	VF R VIDEO OUT (G)	No connection
15	PEAKING OFF OUT	OFF: GND ON: High impedance
16	VF VIDEO OUT (G)	GND for VF VIDEO
17	CHASSIS GND	CHASSIS GND
18	VF B VIDEO OUT (G)	No connection
19	VF DC GND	GND for +12 V (VF)
20	VF DC GND	GND for +12 V (VF)
21	TALLY GND	GND for TALLY
22	VF RET VIDEO OUT (G)	No connection
23	G TALLY ON OUT	ON: 5 V $\pm$ 0.5 V OFF: 0 + 0.5 V
24	NC	No connection
25	16:9 ON OUT	ON: GND OFF: High impedance

LENS (36P FEMALE)



(EXTERNAL VIEW)

No.	SIGNAL	SPECIFICATIONS
1	NC	No connection
2	NC	No connection
3	NC	No connection
4	+12 V (LENS) OUT	+12 V (at 2 A)
5	LENS DC GND	GND for +12 V (LENS)
6	GND	GND
7	NC	No connection
8	LENS EXT-A IN	*2
9	LENS EXT-B IN	*2
10	LENS EXT-C IN	*2
11	LENS AUX OUT	ON: GND OFF: High impedance
12	IRIS POSI IN	$Z_i \geq 10 \text{ k}\Omega$ 2 to 7 V "3.4 $\pm$ 0.1 V (F16)" "6.2 $\pm$ 0.1 V (F2.8)"
13	ZOOM POSI IN	$Z_i \geq 10 \text{ k}\Omega$ 2 to 7 V "2 V (WIDE), 7 V (TELE)"
14	RET 1 $\overline{\text{ON}}$ IN	$Z_i \geq 10 \text{ k}\Omega$ ON: L OFF: High impedance
15	RET 2 $\overline{\text{ON}}$ IN	$Z_i \geq 10 \text{ k}\Omega$ ON: L OFF: High impedance
16	FOCUS POSI IN	$Z_i \geq 10 \text{ k}\Omega$ 2 to 7 V "2 V (MIN), 7 V (∞)"
17	IRIS CONT OUT	2 to 7 V "3.4 $\pm$ 0.1 V (F16)" "6.2 $\pm$ 0.1 V (F2.8)" $Z_o \leq 1 \text{ k}\Omega$
18	IRIS $\overline{\text{AUTO}}$ /MANU OUT	AUTO: L MANU: H $Z_o \leq 1 \text{ k}\Omega$

No.	SIGNAL	SPECIFICATIONS
19	NC	No connection
20	NC	No connection
21	LENS R TALLY ON OUT	ON: L OFF: H $Z_o \leq 1 \text{ k}\Omega$
22	EXP POSITION IN	$Z_i \geq 10 \text{ k}\Omega$ 1 to 4 V 1 V: -7.5° 4 V: $+7.5^\circ$
23	RET 3 $\overline{\text{ON}}$ IN	$Z_i \geq 10 \text{ k}\Omega$ ON: L OFF: High impedance
24	LENS ADRS A IN	*1
25	LENS ADRS B IN	*1
26	LENS ADRS C IN	*1
27	LENS ADRS D IN	*1
28	EXTENDER 1 $\overline{\text{ON}}$ OUT	ON: GND OFF: High impedance
29	EXTENDER 2 $\overline{\text{ON}}$ OUT	ON: GND OFF: High impedance
30	NC	No connection
31	INCOM 1 ENG/PRD IN	$Z_i \geq 10 \text{ k}\Omega$ ENG: GND PRD: High impedance
32	INCOM 2 ENG/PRD IN	$Z_i \geq 10 \text{ k}\Omega$ ENG: GND PRD: High impedance
33	INCOM MIC 1 $\overline{\text{ON}}$ IN	$Z_i \geq 10 \text{ k}\Omega$ ON: GND OFF: High impedance
34	INCOM MIC 2 $\overline{\text{ON}}$ IN	$Z_i \geq 10 \text{ k}\Omega$ ON: GND OFF: High impedance
35	NC (REGI VD OUT $\square \square \square$)	No connection
36	NC (LENS DC GND)	No connection

*1 $Z_i \geq 10\text{ k}\Omega$
1: High impedance
0: $0 \pm 0.5\text{ V}$
LENS ADRS A (Low-order bit)
LENS ADRS D (High-order bit)

*2 $Z_i \geq 10\text{ k}\Omega$
1: High impedance
0: $0 \pm 0.5\text{ V}$

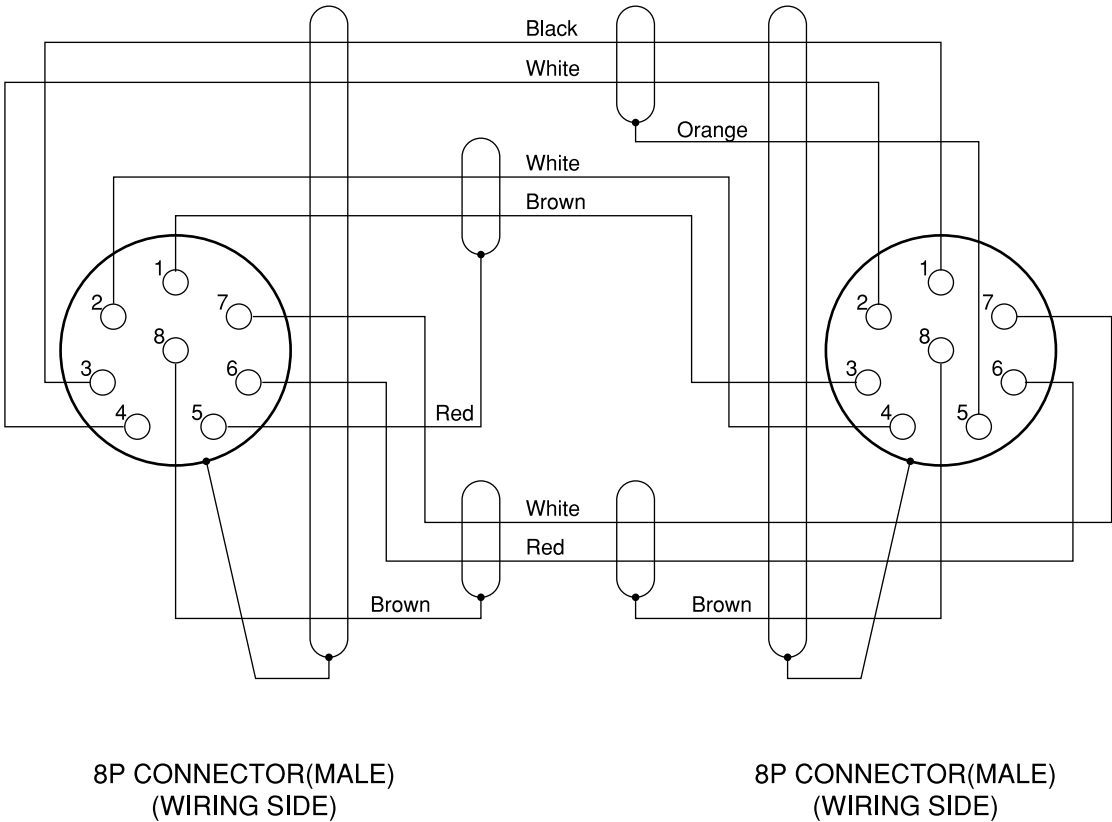
EX1	EX2	EX3	MODE
1	1	1	EXTENDER OFF
1	0	1	EXT-A (× 1.5) ON
0	1	1	EXT-B (× 2) ON
0	0	1	EXT-C (× 2.5) ON

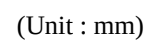
1-2-2. Connection Connector

Connection made with the connector panels during installation or service, should be made with the connectors/complete cable assemblies specified in the following list, or equivalent parts.

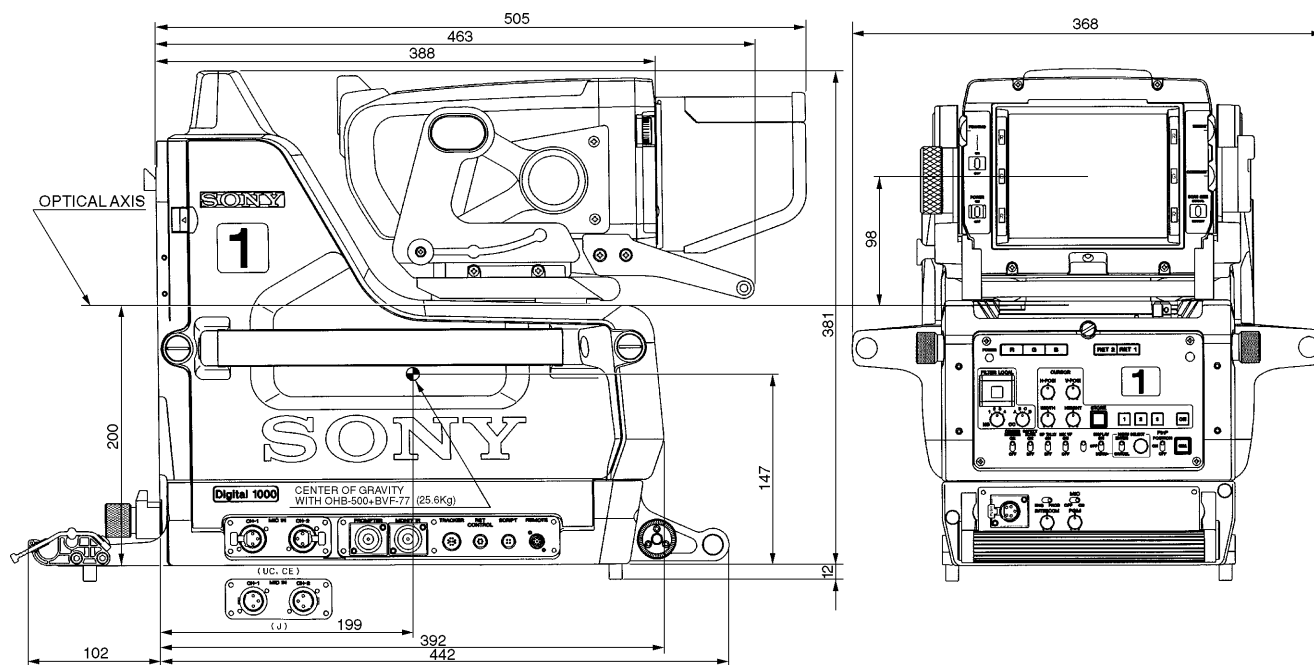
Connector Name	Connection Connectors/Cables
MONITOR PROMPTER (BNC)	1-560-069-11 Plug, BNC or B-B Cable assembly (1.5 m, option)
TRACKER (10P FEMALE)	1-506-522-11 Plug, 10P Male or HIROSE HR10R-10P-10P equivalent
REMOTE RET CONTROL (6P FEMALE)	1-560-078-00 Plug, 6P Male or HIROSE HR10-7PA-6P equivalent
SCRIPT (4P FEMALE)	1-566-425-11 Plug, 4P Male or HIROSE HR10A-7P-4P equivalent
REMOTE (8P FEMALE)	1-766-848-11 Plug, 8P Male or CCA cable assembly (option) CCA-5-10 (10m)/CCA-5-3 (3m)
INCOM (5P FEMALE)	1-508-370-11 XLR, 5P Male or CANNON XLR-5-12C equivalent
MIC IN (3P FEMALE)	1-508-084-00 XLR, 3P Male or CANNON XLR-3-12C equivalent
AC OUT (for BVP-500P)	1-564-093-11 Plug, AC Outlet or HIRAKAWA HEWTECH CM-29 equivalent

1-2-3. Wiring Diagram for Cable CCA-5 Cable





With BVF-77/77CE attached



(Unit : mm)

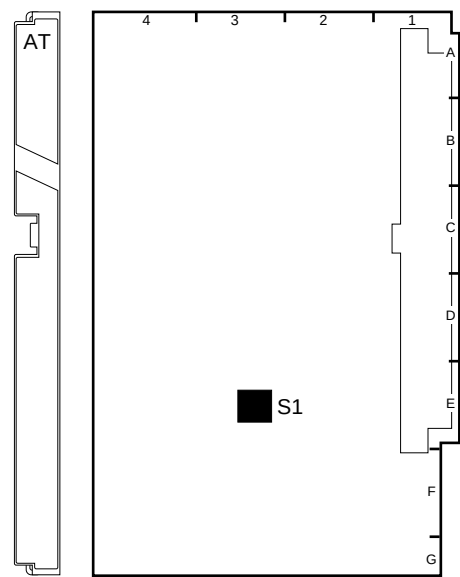
1-4. Installaton Conditions

Operating Temperatur : −20 °C to +45 °C
Storage Temperatur : −20 °C to +50 °C
Humidity : No condense

- Install the unit in a location as dry and well-ventilated as possible.
- Do not install the unit in the following conditions.
High temprature room or near the heat source
Excessive dust or mechanical vibration
Intense magnetic and electric fields
A place subjected to direct sunlight or strong light

1-5. Function of Internal Switches/
Controls

AT-95 Board

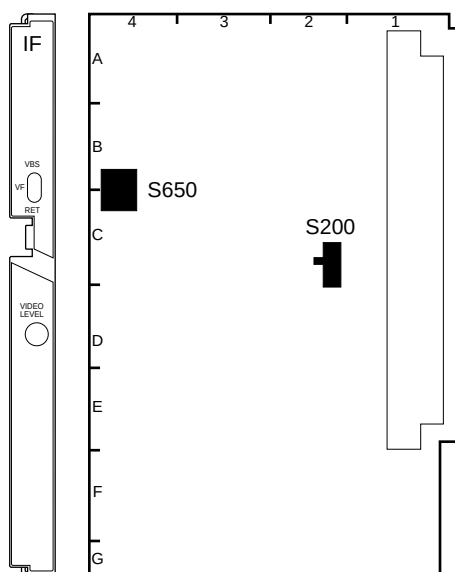


S1 : Setup menu select switch (S1-1 to S1-4)
Setup menu indicated on the viewfinder can be selected in combination of switches S1-1 to S1-4.

() in parentheses: Factory-set positions

				Setup Menu					
S1-1	S1-2	S1-3	S1-4	Operation	Paint	Maintenance	Reference	Triming	Config
OFF	OFF	OFF	OFF	YES	NO	NO	NO	NO	NO
(ON)	(OFF)	(OFF)	(OFF)	YES	YES	NO	NO	NO	NO
OFF	ON	OFF	OFF	YES	YES	YES	NO	NO	NO
ON	ON	OFF	OFF	YES	YES	YES	YES	NO	NO
OFF	OFF	ON	OFF	YES	YES	YES	YES	YES	NO
ON	OFF	ON	OFF	YES	YES	YES	YES	YES	YES

For details on the setup menu, refer to Section 3.

IF-538 Board

S200 : VF connector signal select switch
Selects an output signal to the viewfinder.

RET: Return video signal from CCU

GEN: Reference signal for external synchronization which
is input at REF IN connector (of the BKP-5910/
5910P)

Note

To output a reference signal, the standalone unit BKP-5910/5910P (available separately) is required.

Factory-set position: RET

S650 : MONITOR connector signal select switch

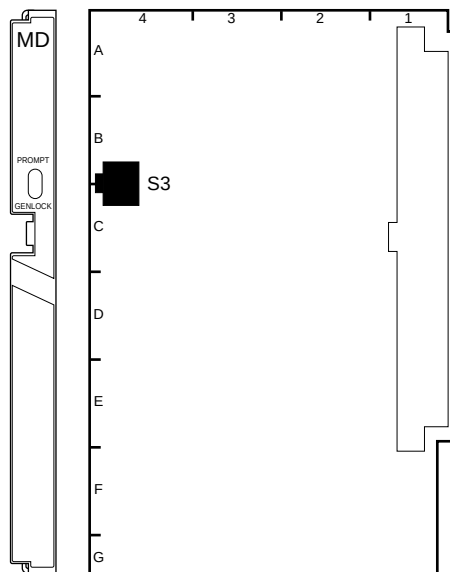
Selects an output signal at MONITOR connector.

VBS: VBS signal

VF: VF video signal

RET: Return video signal from CCU

Factory-set position: VBS

MD-103 Board

S3 : VBS GENLOCK IN/PROMPTER OUT select switch
Always set to PROMPT.

AU-211 Board

SW1 : INCOM MIC select switch

Select according to a microphone of the headset to be connected to INTERCOM connector.

C : Carbon microphone

D : Dynamic microphone

Factory-set position : C

SW2 : INCOM CONTROL MODE select switch
(SW2-1 to 2-8)

SW2-1 : INCOM MIX switch

Turn on to add the intercom audio to the program audio.

Factory-set position : OFF

SW2-2 : INCOM/PGM MIX switch

Turn on to mix the program audio and the intercom audio in front of IC5 (EVR).

Factory-set position : OFF

SW2-3 : PGM MIX switch

Turn on to add the program audio to the intercom audio.

Factory-setting : OFF

SW2-4 : PGM/INCOM level control mode select switch

ON : INCOM level control enables to adjust the levels of the intercom and program audios simultaneously, and PGM level control to adjust a mix ratio between the intercom and program audios.

OFF : INCOM level control adjusts the intercom audio level, and PGM level control adjusts program audio level.

Factory-set position : OFF

SW2-5 : SIDE TONE ON/OFF switch

Turn on to mix the side tone signal. (Mixing level: -26 dB)

RV3/AU-211 board adjusts the side tone level.

Factory-set position: ON

SW2-6 : Not used

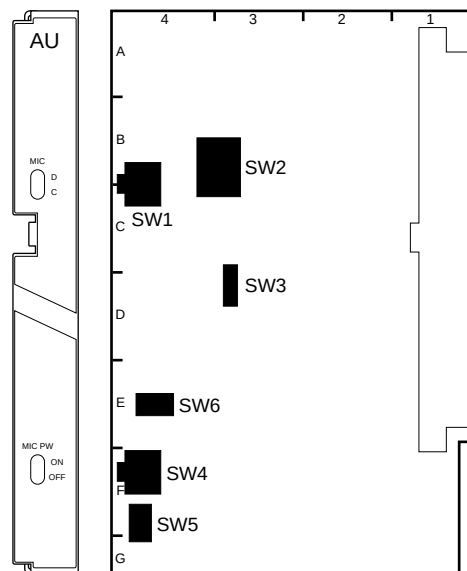
Factory-set position : OFF

SW2-7 : PGM ON/OFF switch

Always set to OFF.

SW2-8 : PB AUDIO ON/OFF switch

Always set to OFF.



SW-3 : TALLY CONTROL switch (SW3-1, 3-2)

SW3-1 : BATTERY ALARM ON/OFF switch

Turn on to output a battery alarm signal to LENS TALLY lamp.

Factory-set position : OFF

SW3-2 : POWER SAVE switch.

Always set to ON.

SW4 : MIC POWER ON/OFF switch

Turn on to use a microphone which operates with an external power supply system.

Factory-set position : OFF

SW5 : AB/PHANTOM MIC select switch

Select according to a microphone which operates with an external power supply system to be used.

AB : AB POWERING +12 V microphone

PHANTOM : PHANTOM +48 V microphone

Factory-set position : PHANTOM

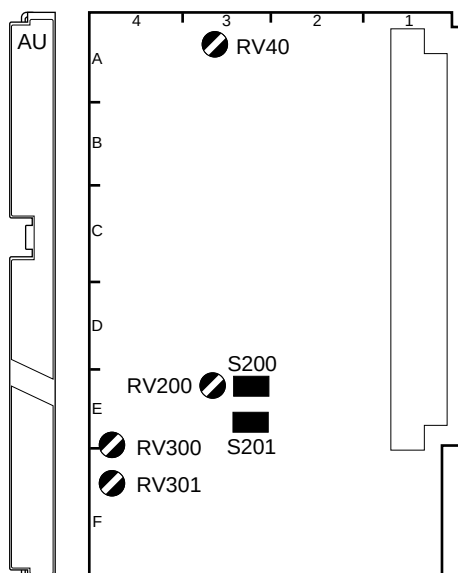
SW6 : MIC LINE select switch

Selects a signal to be transmitted to MIC1 line.

MIC1 : MIC signal input at MIC CH-1 connector

MIC2 : MIC signal input at MIC CH-2 connector

Factory-set position : MIC 1

AU-215 Board

S200 : TRACKER TALK LEVEL select switch
Selects the MIC input level at TRACKER connector,
0 dBu or -20 dBu.

(0 dBu = 0.775 Vrms)

RV200/AU-215 board adjusts the tracker level.

Factory-set position: 0 dBu

S201 : MIC MONITOR ON/OFF switch
Turn on to add the program MIC input to the INCOM out
of the INTERCOM connector and to monitor.

Factory-set position: OFF

RV40 : RTS 1 CANCEL

Adjusts the side tone level for customer's preference.

Factory-set position: Minimized

RV300 : UP TALLY BRIGHT

Adjusts the intensity of the UP TALLY lamp for
customer's preference.

Factory-set position: Maximized

RV301 : VF TALLY BRIGHT

Adjusts the intensity of the VF TALLY lamp for
customer's preference.

Factory-set position: Maximized

DM-98 Board

S1 : RET OUT select switch (S1-1 to S1-4)

S1-1 to S1-4 select an output signal to the viewfinder.

S1-1 : Disables automatically switching between PB
VIDEO and RET VIDEO.

ON : Playback video signal

OFF : Return video signal (in connection with CCU)
Playback video signal (with the BKP-5910/5910P
incorporated).

Note

To output a playback video signal, the standalone unit
BKP-5910/5910P (available separately) is required.

Factory-set position : OFF

S1-2 : Disables automatically switching between VBS/
MONITOR and PB/RET.

Always set to OFF.

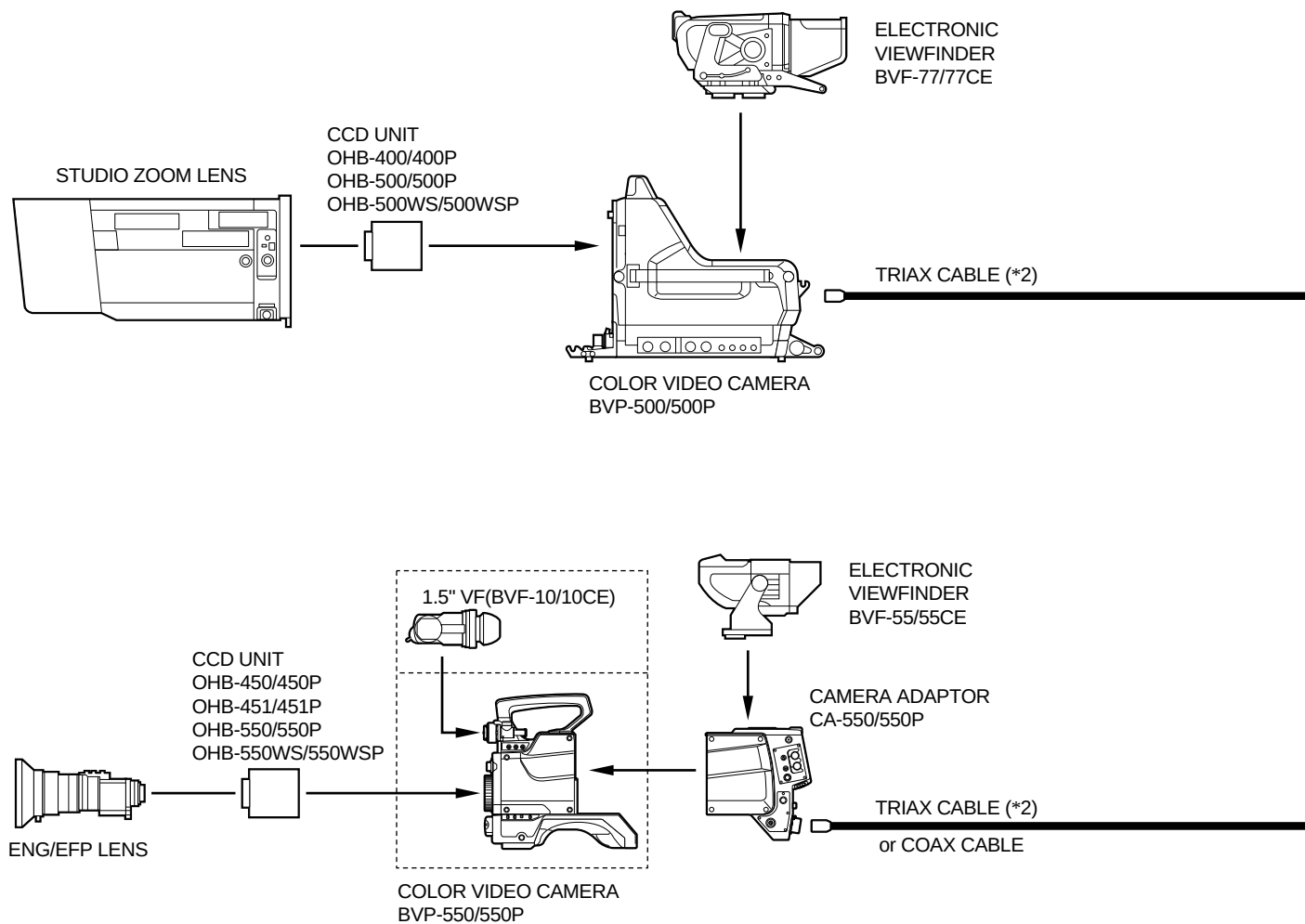
S1-3 : Selects VBS or MONITOR.

Always set to OFF.

S1-4 : Inhibits RET CONT signal with S1-4 set to OFF.

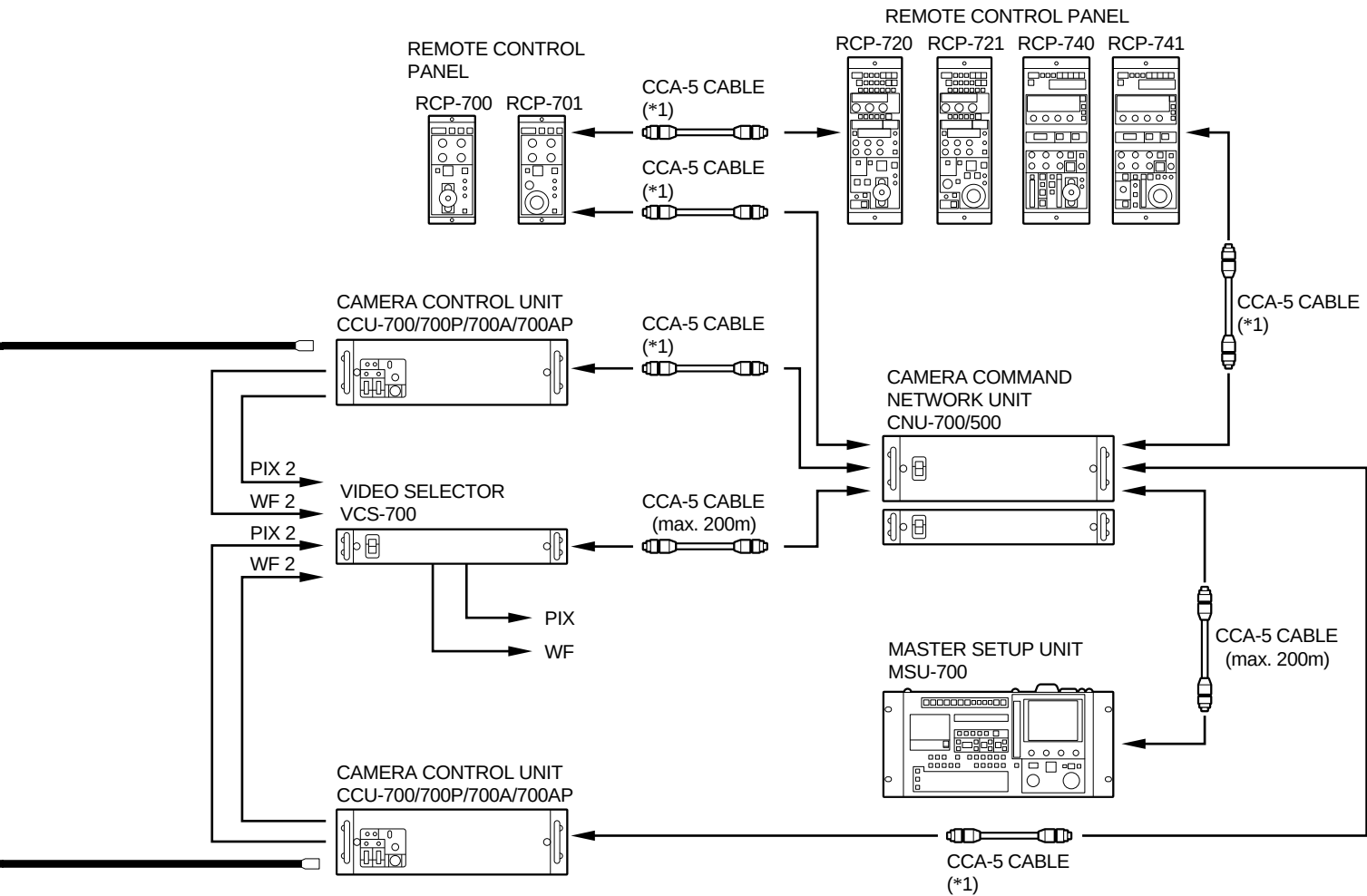
Always set to ON.

1-6. Instance of Sytem Configuration

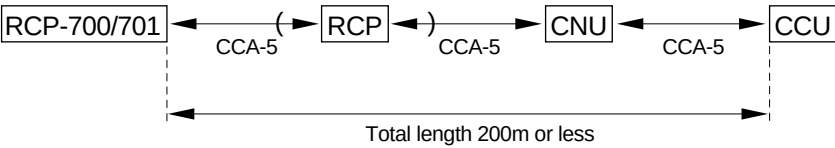


OTHER OPTIONAL ACCESSORIES

For BVP-500/500P	STANDALONE UNIT BKP-5910/5910P
	SCRIPT HOLDER BKP-7911/7912
For BVP-550/550P	ELECTRET CONDENSER MICROPHONE ECM-MS5
	MICROPHONE C-74 (Sony P/N 1-542-099-11)
	CRADLE SUSPENSION CRS-3P
	CARRYING CASE LC-303SFT
For CA-550/550P	TELEPROMPTER UNIT BKP-5971



*1: CCA-5 CABLE LENGTH



*2: TRIAX CABLE LENGTH

Diameter	Maximum length
8.5 mm	1000 m
14.5 mm	2000 m

Section 2

Service Overview

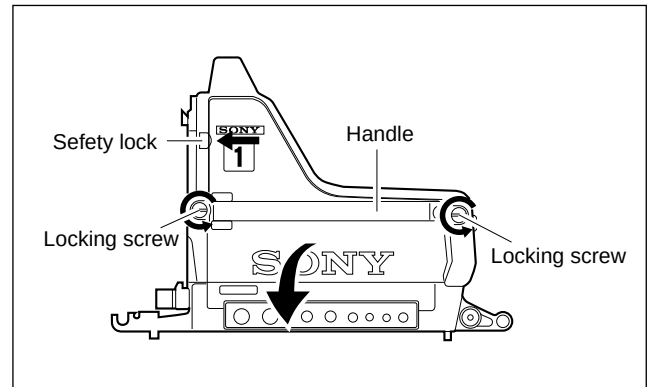
2-1. Opening and Closing the Side Panel

Opening

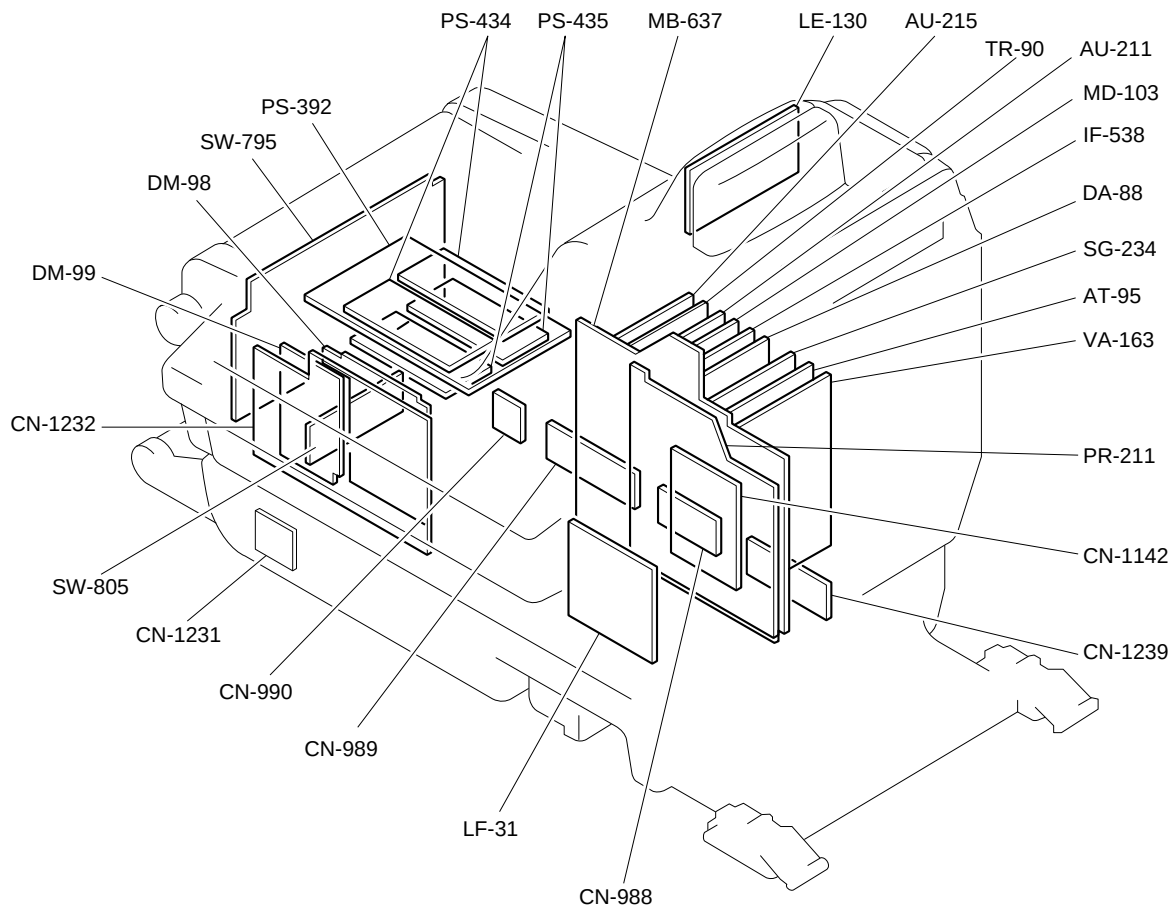
Loosen the two side-panel locking screws, and while sliding the safety lock toward the lens, open the side panel by holding the handle.

Closing

When you close the side panel, the safety lock is automatically locked. Fasten the side-panel locking screws securely.



2-2. Location of Printed Circuit Boards



2-3. Circuit Description

Circuit description for the BVP-500/500P and CCD unit OHB-400/500/500WS series (available separately) is described here. The BVP-500/500P is called as BVP, and OHB-400/500/500WS series is called as OHB in this section.

(1) CCD Drive System (OHB)

TG-159 board

The TG-159 outputs the pulses for driving the CCD to the DR-271 board and outputs the pulses for sampling the CCD output to the PA-181 board.

The driving pulses are synchronized with the HD and VD pulses input from the BVP and are output.

Pulses are generated from the VCO clock (36 MHz) of the board. The clocks for the digital processing circuit (36 MHz, 18 MHz) are also output to the BVP.

CCD V-sub voltage, white shading data and so on are also stored in the EEPROM of the TG-159 board.

DR-271 board

The DR-271 board converts the pulses from the TG-159 board to directly drive the CCD. The converted pulses are transmitted to the CCD via the BI-91(R)/91(G)/91(B) board respectively. The board also has a circuit which makes +29 V from +15 V for the V-sub voltage. Furthermore, the board also has an interface circuit for the optical filter.

BI-91(R)/91(G)/91(B) boards

The CCD is mounted on the BI-91(R)/91(G)/91(B) board respectively. These boards supply the driving pulses and control voltages to the CCD.

The signals output from the CCD are sent to the PA-181 board via the source follower.

PA-181 board

The PA-181 board extracts video signals from the CCD signals output from the BI-91(R)/91(G)/91(B) boards by a correlated double sampling circuit, and amplifies the R and G signals by one time, and the B signal by three times. The resultant signals are output to the VA-163 board of the BVP.

DR-302 board (OHB-400/400P only)

The DR-302 is a driving board for one optical filter disk, which motor-drives a filter selected by the RCP or MSU. The DR-302 board consists of a motor-drive circuit, and a servo circuit comprised of a selected-filter detection and filter position voltage generation circuits.

DR-306 board (OHB-500/500P/500WS/500WSP)

The DR-306 is a driving board for two optical filter disks. The main function is almost the same as the DR-302 board. However, the DR-306 board is provided with the shortest-turn function, which automatically selects the shortest-turn according to a selection of optical filter using a microcomputer.

(2) Video Signal System

VA-163 board

The VA-163 board amplifies the video signals output from the OHB and performs the following processings:

- Black shading correction
- Gain-up control
- Blanking cleaning
- White shading correction
- Feedback clamping
- White balancing
- Flare compensation, and
- Pre-knee

In addition, it also switches between the video signals, TEST SAW(TEST1) signal and 3-STEP TEST(TEST2) signal.

PR-211 board

The PR-211 board converts the analog R, G, and B video signals into digital signals with an analog-to-digital converter having sampling/holding functions.

It generates clocks required for the analog-to-digital conversion and the digital processings from the clocks generated by the OHB.

In addition, the PR-211 board adds a linear matrix and detail signals to the analog-to-digital converted R, G and B signals.

It performs the processings such as pedestal control, gamma correction, knee correction and white clipping for the signals. It also performs the followings.

- Generates an internal color-bar signal and switches between this signal and the main line signals.
- Creates detail and aperture signals from digital R and G signals.
- Creates a skin tone signal.
- Detects signals for an auto iris, flare compensation, DCC, and auto white/black balancings.
- Detects black/white shadings, generates a waveform to compensate them and outputs the waveform to the VA-163 board.
- Detects black levels and outputs the feedback clamp voltage to the VA-163 board.
- Generates TEST SAW waveforms and outputs them to the VA-163 board.

The video signals that has thus been digital-processed, are then converted to the Y, R-Y and B-Y signals and are output to the DA-88 board. The Y/C signals are generated from the Y, R-Y and B-Y signals with a color encoder IC on the PR-211 board. These signals, that were sampled at 36-MHz rate and quantized by 10 bits, are digital-to-analog converted.

And the resultants are then output to the DA-88 board as a monochrome signal for VF, wide-band luminance signal, or modulated chroma signal. The monochrome signal for VF has a zebra signal for level indication, and character signal and center marker signal mixed on it.

DA-88 board

The monochrome signal for VF (VF Y) sent from the PR-211 board goes through a lowpass filter and is output to the IF-538 board. The wide-band luminance signal Hi-Ys is output via a lowpass filter to the MD-103 board. The modulated chroma signal C goes through a black clamp circuit and lowpass filter and is added to the Hi-Ys. The resultant is output to the IF-538 board as a VBS signal. The Y, R-Y and B-Y signals, that are input from the PR-211 board as the digital video signals, are aligned in phase with video signals in another channels by a digital delay line. The resultant is digital-to-analog converted and is then output via a lowpass filter and black clamp circuit to the IF-538 board. On the other hand, an analog component signal is generated in combination with the above-mentioned Hi-Ys signal, R-Y and B-Y signals. The analog component signal is controlled, on the level adjustment and reference signal addition, by the AT-95 board according to equipment connected to the camera (VTR or CCU). The analog component signal is output to the MD-103 board via the MB-637 board.

IF-538 board

Input signals at the IF-538 board are as follows;

Signals from the DA-88 board: VF Y, VBS, Y, R-Y and B-Y

Signals from external equipment: Reference signal for external synchronization, Return video signal

By combination with these signals, the IF-538 board outputs the following signals.

- **VTR VBS OUT signal**

The input VBS signal is output via the buffer amplifier to the MB-637 board. This is used to output for the VTR connector (26P) of the standalone unit BKP-5910/5910P only when the standalone unit is installed in the camera.

- **VF OUT signal**

Switching between the return video or reference signal which is selected with S200/IF-538 board, and the VF-Y signal is done by the $\overline{\text{CAM}}$ /RET signal. The selected signal is via a lowpass filter to the PinP (Picture in Picture) circuit to be processed as a small picture signal. At the next stage, an analog switch switches back and forth between the large and small picture signals to display the small picture in the large picture. In combination with this analog switch and another analog switch at the front of the PinP circuit, reversing between the large and small picture signals, and moving the position of the small picture are allowed by operating the rear panel switch. At the final stage, thus picture-in-picture signal has center marker and safety zone pulse signals mixed on it and is output at the IF-538 board.

- **MONITOR OUT signal**

The S650/IF-538 board selects a signal from VF signal, VBS signal or one of the return video or reference signal selected with S200/IF-538 board. The selected signal is output via the amplifier at the MONITOR OUT connector on the side of the camera. When the VF signal is selected, however, it is switched over to the VF-Y or RET signal by the $\overline{\text{CAM}}$ /RET signal corresponding the VF display selection.

In addition, the IF-538 board is equipped with the following circuits.

- **HD/VD external sync circuit**

When displaying the return video or reference signal on the viewfinder screen, it is necessary to synchronize the cursor signal with those signals. And a sync signal is separated from those signals to generate the external HD and VD signals, and the resultant is sent to the cursor signal generation circuit on the PR-211 board.

- Peak-detects the G signal and outputs to the AT-95 board.
- Transmits the SKIN GATE signal from DA-88 board to the MD-103 board.

(3) Auto system

AT-95 board

The AT-95 board consists of a microcomputer which controls the camera according to the instructions stored in a ROM. Operations of the board are listed below;

- Analyzes video system detection data, analog data and instructions of the function switches.
- Outputs various control signals and compensation signals to the boards.
- Outputs status information and self-diagnosis information as character data from the character generator.
- Incorporates the interface function with the RM-P9 or the CCU-700/700P.

(4) Pulse system

SG-234 board

The SG-234 board has a sync signal generator which generates various sync signals for the camera. The sync signals are generated from the clock pulse input from the OHB via the PR-211 board. They are output to the boards of the camera and OHB respectively. This generator has two modes to synchronize with a reference signal input for external synchronization. One is a VBS input mode when the camera is used together with the standalone unit BKP-5910/5910P and the other is a V RESET/H CONT mode when the CCU is connected to the camera.

(5) Audio modulation/demodulation system

AU-211 board

The CHU/RCP data is input/output from/to the AU-211 board. And audio signal processings such as the audio mode switching and gain control of MIC CH-1 and CH-2 are performed.

The received data from the RCP goes through the photo-coupler and is then send as the COM CONT signal to control the camera, to the AT-95 board. If the CCU is connected to the unit, the COM CONT signal is automatically send to the CCU. As for how to select the IN-COM mode, refer to Section 1-5 "Function of Internal Switches – AU-211 board". In addition, the AU-211 board supplies the power to the MIC CH-2 connector.

TR-90 board

The TR-90 board modulates/demodulates the audio signals such as the MIC, INCOM and PGM. It also demodulates the H CONT signal and modulates/demodulates the CHU/CCU DATA. And it also generates the TONE signal and modulates it.

AU-215 board

The AU-215 board controls/drives a tally system circuit and also supplies the power to the MIC CH-1 connector. It also mixes the TRACKER TALK signal and the intercom audio and outputs the intercom audio as the TRACKER RECEIVE.

(6) Video modulation/demodulation system

MD-103 board

The MD-103 board modulates the luminance signal Y, the color difference signals R-Y and B-Y. And it selects a signal to be input/output at GENLOCK IN/PROMPT OUT connector. But, this selection is invalid for this camera and the S3/MD-103 board does not activate. And also it quadrature-modulates the Y signal and SKIN GATE signal with the carrier of 22.5 MHz. The resultant signal is sent to the CCU.

DM-98 board

The DM-98 board demodulates the RET VIDEO signal and also selects an output signal. The relationships between the switch setting and output signal are given in Section 1-5 “Function of Internal Switches – DM-98 board”.

DM-99 board

The DM-99 board demodulates and amplifies the PROMPT signal.

2-4. Description of EEPROM Data

The table below gives the holding data of EEPROM on every printed circuit board.

Board	Ref. No.	Holding data
VA-163	IC26	VA-163 adjustment data
AT-95	IC46	Triming/Reference files
SG-234	IC21	SG-234 adjustment data
DA-88	IC10	DA-88 adjustment data
IF-538	IC603	IF-538 adjustment data
MB-637	IC5	Model name, Serial number of the unit

Note

The IC listed above cannot be replaced because it is the EEPROM that is holding data inherent in the board. The part number listed in Section 1 “Spare Parts” of BVP-500/500P Maintenance manual, Volume 2 is for an EEPROM which is not programmed. If replacement is needed, consult your Sony representatives.

2-5. Disconnecting/Connecting Flexible Card Wire

The flexible card wires are used between the MB-637 and CCD unit(OHB), MB-637 and SW-795 boards and MB-637 and PR-211 board respectively. Take care not to break these flexible card wires. This shorten the wire life.

Disconnecting

1. Turn off the power.

Type A

(between MB-637 and CCD unit, and between MB-637 and SW-795)

2. Lift up the portion A in the direction of the arrow and disconnect the flexible card wire.

Type B

(between MB-637 and PR-211)

2. Slide portions B in the direction of the arrow to unlock and pull out the flexible card wire.

Connecting

Notes

- Be careful not to insert the flexible card wire obliquely.
- Check that the conductive surface of the flexible card wire is not soiled with dust.

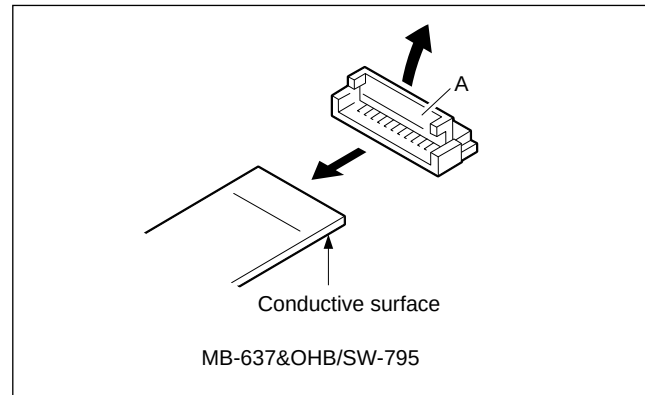
Type A

1. Lift up the portion A in the direction of the arrow and insert the flexible card wire as far as it will go with the conductive surface down.
2. Push down the portion A to secure the flexible card wire.

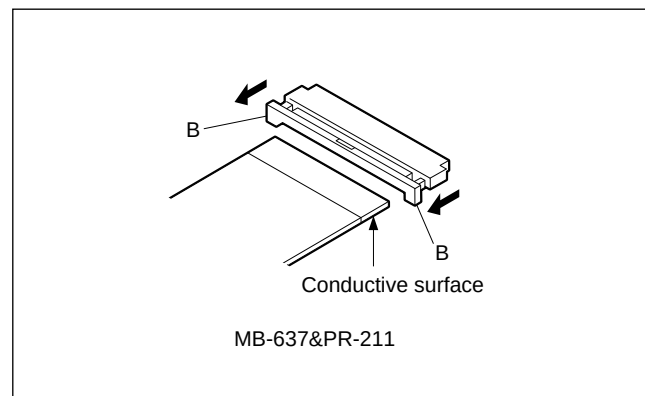
Type B

1. Slide portions B in the direction of the arrow and insert the flexible card wire as far as it will go with the conductive surface down.
2. Slide portions B in the reverse direction to lock.

Type A



Type B



2-6. Replacement of Board

2-6-1. Note on Replacement of Parts

Every electrical part mounted on the LF-31, PR-211 and CN-1142 boards cannot be replaced. If there is any defective part, replace the board itself.

The PR-211 board is provided with a termination board CN-1142 on it. The CN-1142 board is necessary when the PR-212 board of OHB-500WS/500WSP is not installed. Unless the PR-212 board is installed, be sure to connect the CN-1142 board to the PR-211 board.

2-6-2. Replacement of CN-988/989/990 Board

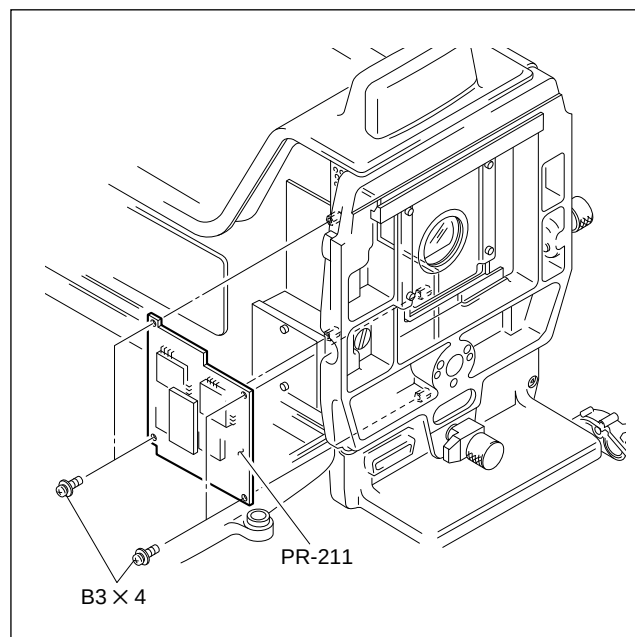
The CN-988/989/990 boards are small printed circuit boards used for the camera's right side panel equipped with the REMOTE connector and so on. If you order one of these boards, a combined board of the above three will be supplied from the Sony parts center. So, please cut off a necessary board from it and use for service.

2-6-3. Replacement of PR-211 Board

Note

In replacing the PR-211 board, a screwdriver whose blade is long (blade length: 200 mm or more) is required. (Sony P/N:7-700-739-01 or equivalent)

1. Open the left side panel referring to Section 2-1.
2. Remove the four screws to remove the PR-211 board.
3. Disconnect the flexible card wire referring to Section 2-5.

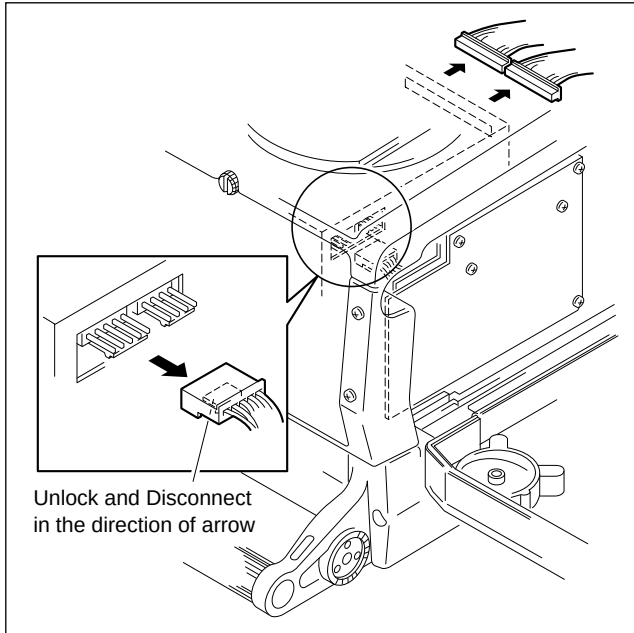


4. Install a new board in the reverse procedures of removal.

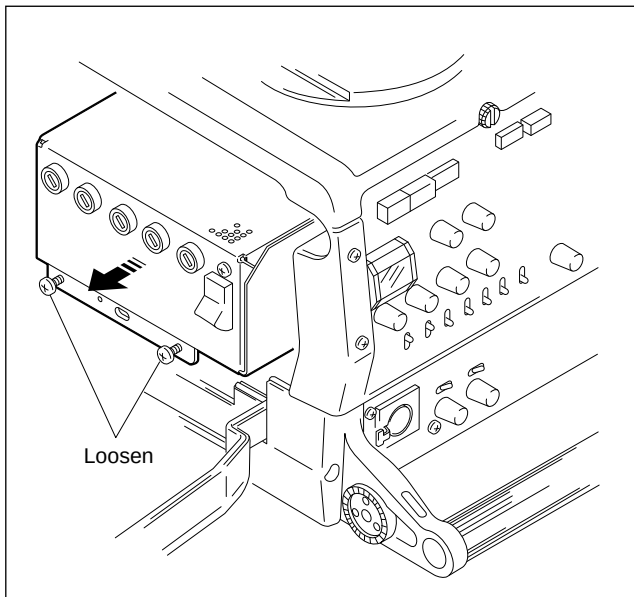
2-7. Replacement of Power Assembly

2-7-1. Replacement of Power Assembly

1. Open the both side panels referring to Section 2-1.
2. Disconnect the three connectors from the power assembly.



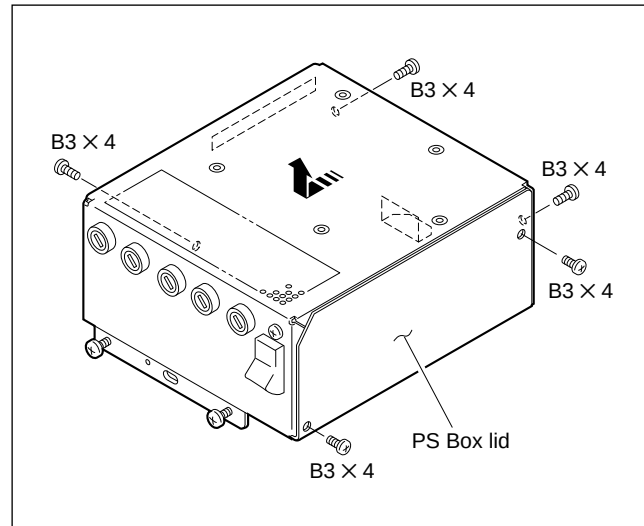
3. Loosen the two screws and pull out the power assembly.



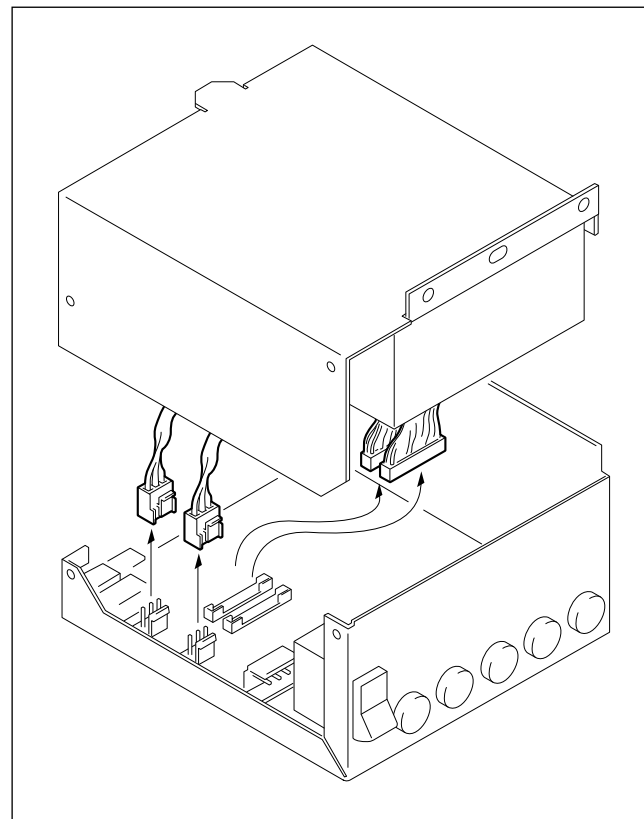
4. Install a new power assembly in the reverse procedures of removal.

2-7-2. Removal of PS-392 Board and AC.DC/DC Converter

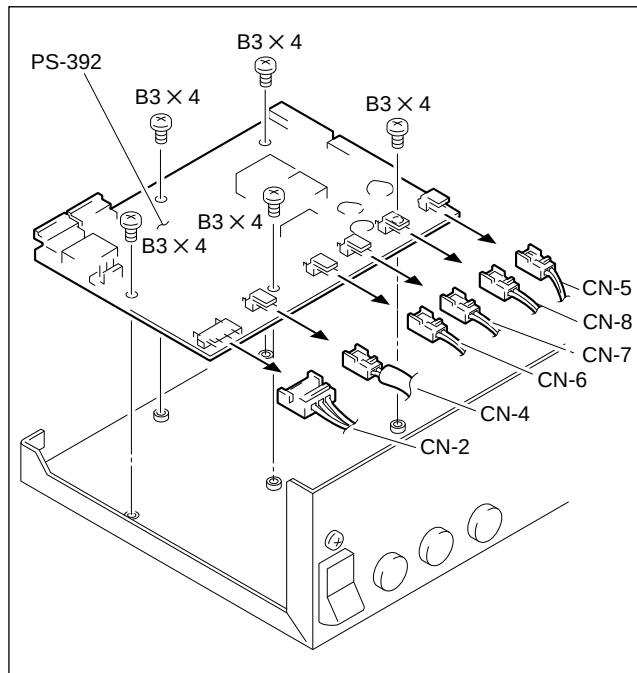
1. Remove the power assembly referring to Section 2-7-1.
2. Remove the five screws and remove the PS box lid.



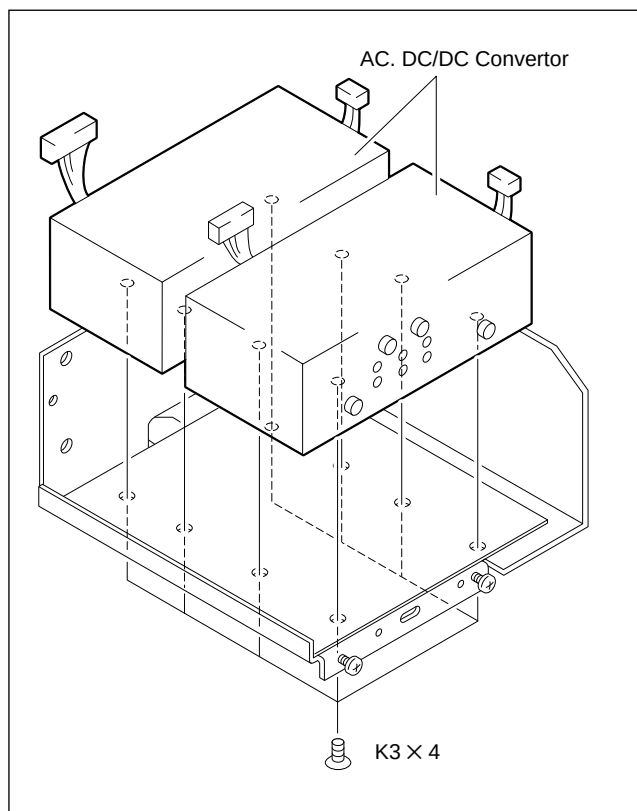
3. Disconnect the four connectors of the AC.DC/DC converter from the PS-392 board.



4. To remove the PS-392 board, disconnect the six connectors and remove the five screws.



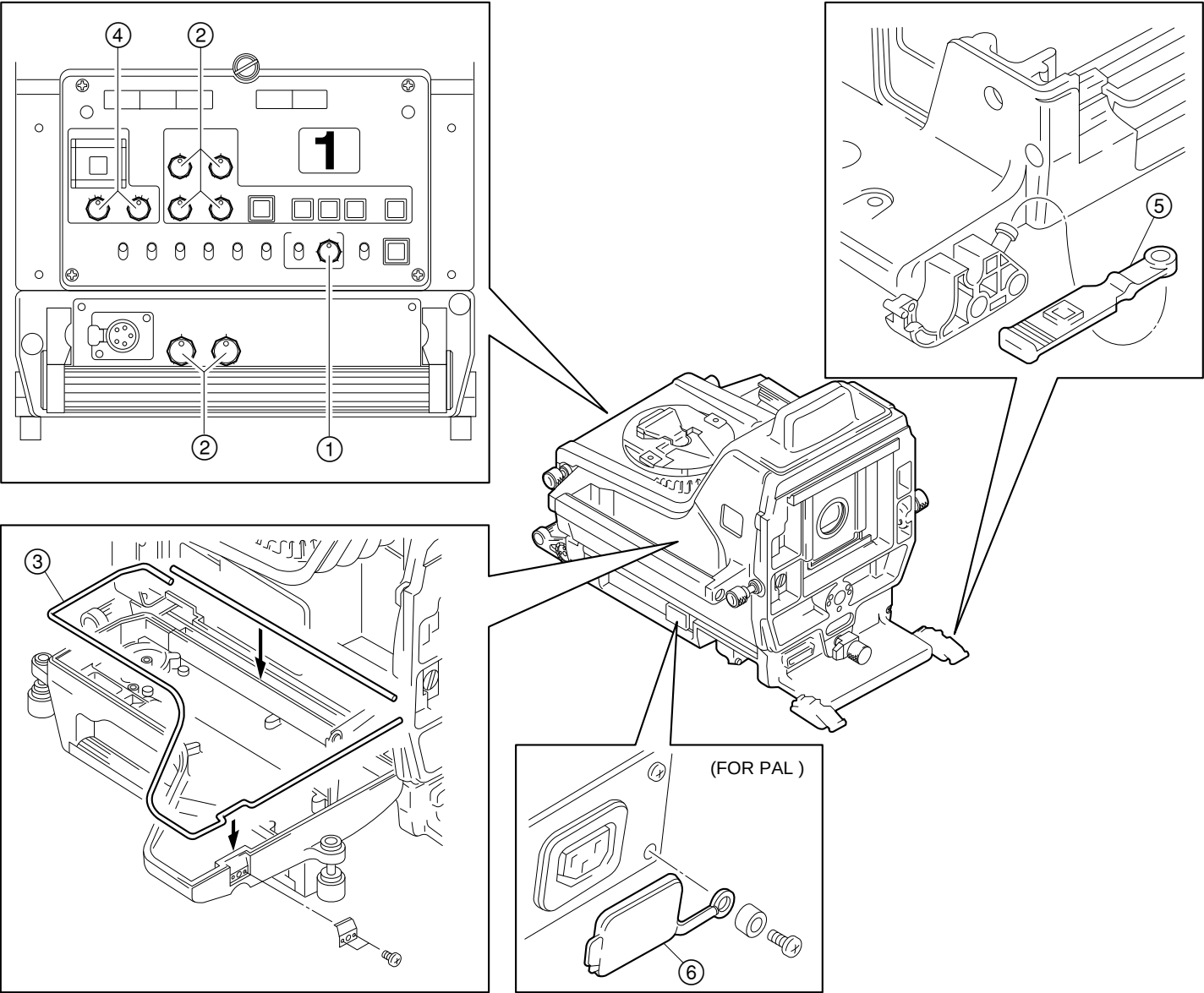
5. To remove the AC.DC/DC convertor, remove the four screws respectively.



2-8. Periodic Replacement Part

Parts listed below is a periodic replacement part. It is subject to cracks with the lapse of time. Check sometimes by visual, and replace as necessary.

No.	Description	Sony P/N
①	Control Knob Assembly	X-3167-051-X
②	Control Knob Assembly	X-3167-563-X
③	Shielding Rubber	3-185-869-2X
④	Control Knob	3-185-872-0X
⑤	Cable Clamper	3-186-502-0X
⑥	Outlet Lid (for PAL)	3-186-501-0X



2-9. Tools and Fixtures

2-9-1. Tools and Fixtures

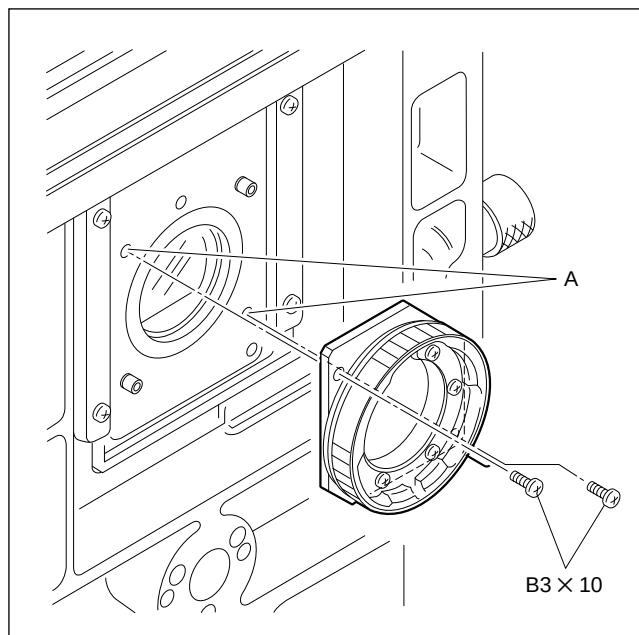
Description	Sony P/N
Extension Board EX-464	J-6395-040-A
Extension Cable for Power assembly	J-6395-070-A
Portable Lens Attachment (for OHB-400 series)	J-6395-080-A
Portable Lens Attachment (for OHB-500 series)	J-6395-090-A

2-9-2. Use of Portable Lens Attachment

Use of a portable lens attachment enables a portable lens to be attached to the camera. This attachment should be used for limited application such as adjustment. Because the characteristics of the camera are not satisfied when it is used for shooting.

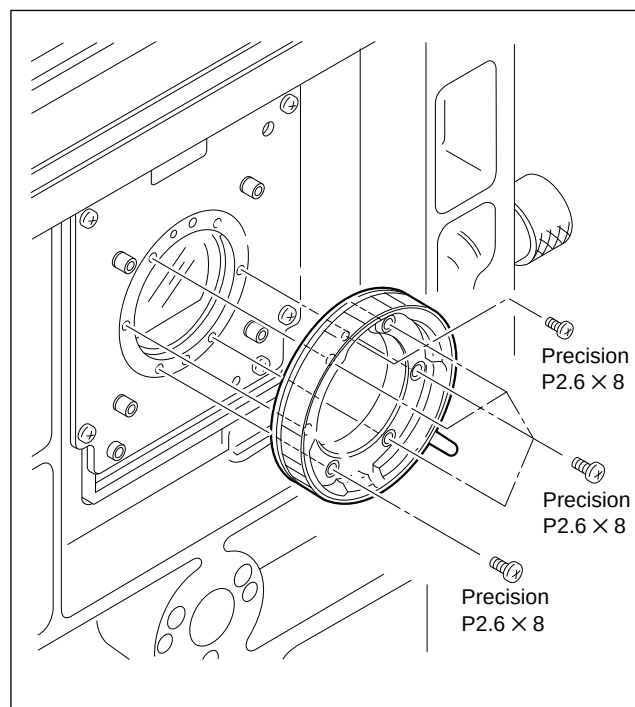
Attaching to OHB-400 series

Remove the two hexagon-socket bolts at portions A. Attach the portable lens attachment with two screws (B3x10).



Attaching to OHB-500 series

Attach the portable lens attachment with the six screws (precision P2.6x8) supplied with the attachment.



2-10. Notes on Repair Parts

1. **WARNING**

Safety Related Components Warning

Components marked $\triangle$ are critical to safe operation. Therefore, specified parts should be used in the case of replacement.

2. **Standardization of Parts**

Some repair parts supplied by Sony differ from those used for the unit. These are because of parts commonality and improvement.

Parts list has the present standardized repair parts.

3. **Stock of Parts**

Parts marked with “o” at SP(Supply Code) column of the spare parts list may be not stocked. Therefore, the delivery date will be delayed.

4. **Units Representation**

The following represented units are changed or omitted in writing.

Units	Representation	
Capacitance	μ F	uF
Inductance	μ H	uH
Resistance	Ω	Abbreviation

5. **Destination Representation**

The part indicated “For J/UC/CE” in the spare parts list is used in the unit written below.

For J : The part is used in a unit for Japan.

For UC : The part is used in a unit for U.S.A. and Canada.

For CE : The part is used in a unit for regions except the above countries.

Section 3

Setup Menu

3-1. Setup Menu

The Setup menu is used to select settings of camera operation, select items to be displayed on the viewfinder screen, and select the way the items are displayed.

It is also used for adjustment. The menu appears on the viewfinder screen.

By changing an internal switch on the IF-538 board, the same signal as output to the viewfinder is enabled to be output at the MONITOR connector.

- **Configuration of the Setup Menu**

The setup menu consists of the following menus

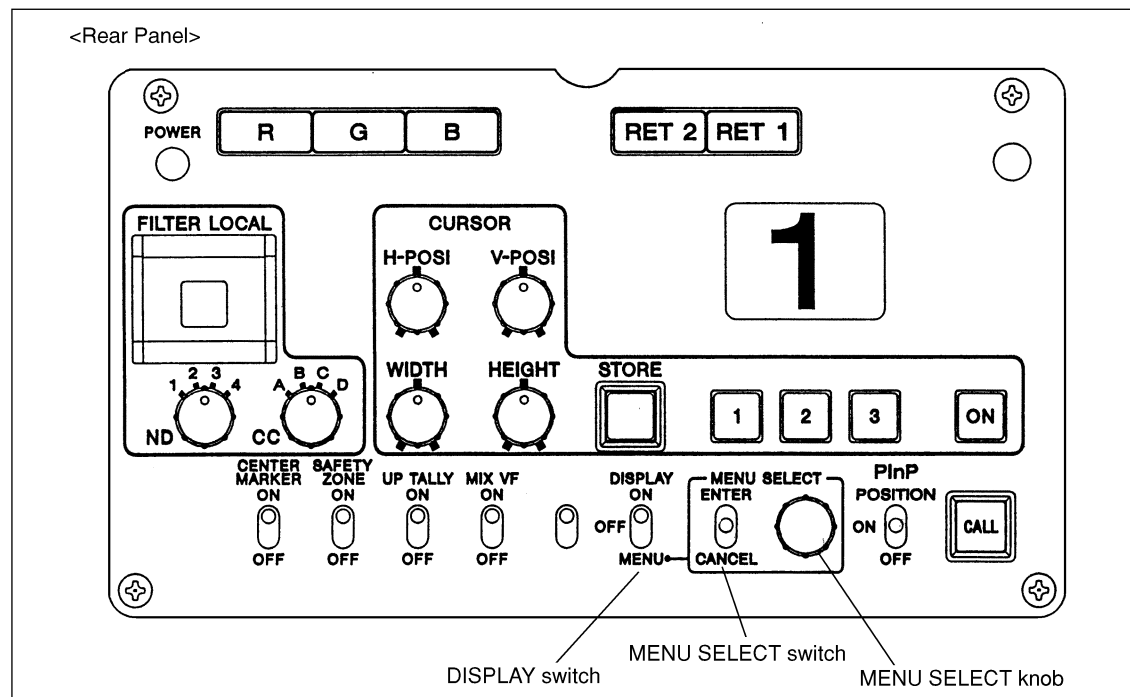
- Operation menu
- Paint menu
- Maintenance menu
- Reference menu
- Trimming menu
- System config menu

Operation and Paint menus are normally accessible. To display the other menus, switch setting of the AT-95 board is required. For details, refer to Section 1-5. “Function of Internal Switches—AT-95 board”

- **Equipment required**

CCD Unit	OHB-400/500 series
Camera Control Unit	CCU-700/700P/700A/700AP.
7-inch Electronic Viewfinder	BVF-77/77CE (or B/W monitor)

- **Switches and Control knob**



DISPLAY switch

ON : Displays characters and messages indicating the video camera settings and operation status.

OFF : No character or marker display appears on the viewfinder screen.

MENU : The setup menu appears on the viewfinder screen.

MENU SELECT knob

Selects the menu item or setting value displayed on the viewfinder screen.

MENU SELECT switch

ENTER : Enters the page/item select mode, or enters the setting values.

CANCEL : Cancels the contents of a menu setting, or returns to the page select mode or TOP menu.

Note

The TOP menu screen indicates the entire configuration of menu items.

To display the TOP menu, set the DISPLAY switch to MENU (from OFF) while pushing up the MENU SELECT switch to ENTER.

• Basic Operation

1. Displaying the menu

To display the Operation menu, set the DISPLAY switch to MENU.

To display the other menus than the Operation menu, first of all, the TOP menu shall be displayed.

To display the TOP menu, set the DISPLAY switch to MENU while pushing up the MENU SELECT switch to ENTER. Then turn the MENU SELECT knob to move the cursor to a menu item which you want and push up the MENU SELECT switch to ENTER.

2. To shift the page, turn the MENU SELECT knob with a page scroll bar displayed at the top-right of the screen until the desired page is displayed and push up the MENU SELECT switch to ENTER.

The menu enters the item select mode and the page scroll bar disappears.

3. To shift the item, turn the MENU SELECT knob until the → cursor points the item to be set and push up the MENU SELECT switch to ENTER.

4. To change the value, turn the MENU SELECT knob. You can change the values quickly by turning the MENU SELECT knob fast. You can make very fine adjustments by turning the switch slowly. By pushing up the MENU SELECT switch to ENTER, the setting is entered.

5. The menu page is returned to the item select mode or page select mode every time the MENU SELECT switch is pushed down to CANCEL.

6. To exit from the setup menu, set the DISPLAY switch to OFF.

• ROM version

Contents in the menu and factory settings may differ from the descriptions in this manual depending on the version of ROM (IC36) on the AT-95 board.

In this section, an item under “Ver.” in the table shows a ROM version. If any version is given, it shows that the function for the item is added or changed, and the ROM with that version or higher version supports the function. If no version is given, it shows that every ROM version supports the function.

To confirm the ROM version easily proceed as follows:

1. Set the DISP switch to OFF.

2. Power the unit on while pushing up the MENU SELECT switch to ENTER. The indication of ROM version is displayed for about three seconds.

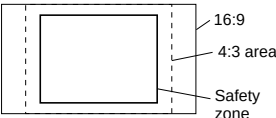
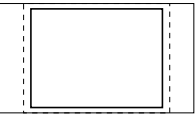
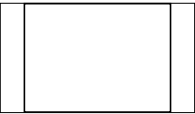
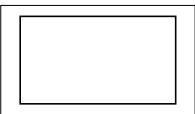
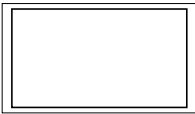
3-1-1. Operation Menu

This menu contains items contained for changing camera settings to suit shooting conditions during normal camera operations.

(Boxed items under “Settings” indicate the factory setting.)

Page	Ver.	Item	Settings	Contents
VF DISPLAY		ZOOM	☐ ON, OFF	Turns on and off the indications of zoom position and lens extender.
		SHUTTER	☐ ON, OFF	Turns on and off the indications of shutter speed and mode.
		IRIS	☐ ON, OFF	Turns the iris setting indication on and off.
		AUDIO	--	Turns the audio level indication on and off. (Does not function in the unit.)
		TAPE	--	Turns the tape-remaining indication on and off. (Does not function in the unit.)
		ZEBRA	ON, ☐ OFF	Turns the zebra indication on and off.
		MESSAGE	☐ ON, OFF	Turns on and off the indication of message in changing each setting of filter, white balance memory, gain value, DCC(auto knee) and shutter speed. The indication is displayed within three seconds in the center of the viewfinder screen.
		MODE	CHG, ☐ USR	CHG : The indications of the optical filter, white balance memory and gain value are displayed only when they differ from the standard settings (FILTER:1B, WHITE:A, GAIN:0dB) USR : The indications are displayed corresponding to the settings on the VF DISPLAY page.
		FILTER	*, ☐ ON, OFF	Turns the optical filter indication on and off.
		WHITE	*, ON, ☐ OFF	Turns the white balance memory indication on and off. (Automatically turned OFF in connection with CCU/RCP.)
		GAIN	*, ☐ ON, OFF	Turns the gain value indication on and off.
MARKER		CENTER	☐ ON, OFF	Turns the center marker indication on and off.
		SAFETY ZONE	80%, ☐ 90%, OFF	Turns the safety zone marker indication on and off and selects the area indicated by that marker. ^{a)}
		BOX CURSOR	ON, ☐ OFF	Turns the box cursor indication on and off.
		BOX H POS	-99 to 99 (☐ 0)	Shifts horizontally the location of the box cursor on the screen.
		BOX V POS	-99 to 99 (☐ 0)	Shifts vertically the location of the box cursor on the screen.
		BOX WIDTH	00 to 99 (☐ 41)	Sets the width of the box cursor.
		BOX HEIGHT	00 to 99 (☐ 10)	Sets the height of the box cursor.

a) In the 16:9 mode, the following kinds of safety zone marker can be selected in combination of the settings of “SAFETY ZONE” and “4:3 SAFETY”.

		SAFETY ZONE		
		80%	90%	OFF
4:3 SAFETY	ON			
	OFF			Not indicated

Page	Ver.	Item	Settings	Contents
GAIN SW		LOW	-3, 0 , 3, 6, 9, 12, 18, 24, 30 dB	Selects the gain value for each gain switch position (LOW, MIDDLE, HIGH) of RM-P9 when the standalone unit is installed in the unit. (Note: Except under the above conditions, the setting change becomes invalid.)
		MID	-3, 0, 3, 6, 9 , 12, 18, 24, 30dB	
		HIGH	-3, 0, 3, 6, 9, 12, 18 , 24, 30dB	
WIDE SCREEN (For OHB-500WS /500WSP)		16:9/4:3 MODE	16:9 , 4:3	Selects the aspect ratio for the video signal output. (This setting is valid only when the standalone unit BKP-5910/5910P is incorporated.) ^{b)}
		VF ASPECT	AUTO , 4:3	Selects the aspect ratio for the viewfinder indication. AUTO : Automatically selects according to the aspect ratio selected by 16:9/4:3 MODE on the WIDE SCREEN page. 4:3 : Selects 4:3 regardless of the 16:9/4:3 MODE setting.
		4:3 SAFETY	ON, OFF	Selects whether the safety zone maker showing the 4:3 area is indicated in the 16:9 mode, or not. ^{a)}
		16:9 ID ON VF	ON, OFF	Turns on and off the 16:9 indication in the 16:9 mode on the viewfinder screen. (This setting is valid only when the DISPLAY switch is set to on or off.)
		16:9 ID	ON, OFF	Selects whether the 16:9 indication is displayed on the internal color-bar in ON BARS the 16:9 mode, or not. (This setting is valid only when the DISPLAY switch is set to on or off.)
MON OUT		BNC TEST OUT	--	Does not function in the unit. The panel switch (S650) on IF-538 board can select a signal to be output at MONITOR connector (VBS, VF or RET)
		RM/MON CHAR	ON , OFF	Selects whether character signals displayed on the viewfinder screen are mixed with the VBS signal when "VBS" is selected by the panel switch (S650) on IF-538 board.
		VBS LOCK	--	Does not function in the unit.
		VF VIDEO MODE	Y , MIX, NAM	Selects a video signal to be output to the viewfinder. Y : $Y=0.3R+0.59G+0.11B$; The same as a camera output signal MIX : $Y=0.33R+0.33G+0.33B$ NAM: Selects one of the R, G, and B signal that is maximum in level.
		[RGB]-G	ON, OFF	Sets signals selectable by RGB switch. ON : R-G, B-G OFF : R, G, B
AUTO IRIS AUTO KNEE (DCC)		IRIS OVERRIDE	-99 to 99 (0)	Sets the reference value for automatic iris adjustment. -99 (further closed) ↔ 99 (further opened)
		IRIS OVERRIDE	ON, OFF	Turns the auto-iris override function on and off.
		APL RATIO	-99 to 99 (0)	Sets the way the iris is automatically adjusted. 99 (PEAK) ↔ 99 (AVERAGE)
		AUTO KNEE POINT	-99 to 99 (XX)	Sets the point on which the knee function starts to have effect in the auto-knee mode.
		AUTO KNEE	-99 to 99 (XX)	Sets the volume of the effect of the knee function in the auto-knee mode. SLOPE

b) The change of aspect ratio using this menu is disabled because the CCU' s setting has a priority when the CCU is connected.
If you want to change the aspect ratio when the CCU is connected, use the OTHERS page of the Paint menu. When you attempt to change using this menu, a message "Use Paint MNU" is displayed.

Page	Ver.	Item	Settings	Contents
STAND ALONE		H PHASE	-99 to 99 (XX)	Sets the horizontal phase of the camera in the genlock mode.
		SC PHASE	0 to 360(XX)	Sets the subcarrier phase of the camera in the genlock mode.
		CABLE COMP	ON, OFF	Turns on and off the cable compensation circuit for the external sync signal in the genlock mode.
		SNG BARS	ON, OFF	Turns the color-bar signal for SNG on and off.
		MASTER BLACK	-99 to 99 (0)	Adjusts the MASTER BLACK level.
		IRIS OVERRIDE	ON, OFF	Turns the auto-iris override function on and off.
		CF PULSE	ON , OFF	Turns on and off the color framing pulse supplied to the VTR.
		SKIN DETAIL	ON, OFF	Turns the skin tone detail function on and off.
	1.10	AUTO HUE	Throw MENU SELECT switch to ENTER to execute.	Sets the skin detail hue function automatically. (Locate the desired skin color within the gate marker of VF and measure.)
AUTO SETUP		AUTO BLACK	Throw MENU SELECT switch to ENTER to execute.	Starts to automatically adjust the black balance. (To abort a processing during execution, throw MENU SELECT switch to ENTER.)
		AUTO WHITE	Throw MENU SELECT switch to ENTER to execute.	Starts to automatically adjust the white balance.
		LEVEL AUTO	Throw MENU SELECT switch to ENTER to execute.	Starts to automatically adjust the level in the internal circuits. ^{c)} (To abort a processing during execution, throw MENU SELECT switch to ENTER.)
		TEST	1, 2, OFF	Selects the test signal. 1 : Outputs the sawtooth waveform test signal 2 : Outputs 3-step waveform test signal OFF : No test signal is output.
DIAGNOSIS		OHB	OK , NG	Displays a state of communication for control data between the OHB block and CPU on AT board.
		PR	OK , NG	Displays a state of communication for control data between the PR board and CPU on AT board.
		VA	OK , NG	Displays a state of communication for control data between the VA board and CPU on AT board.
		AT	OK , NG	Displays a state of communication for control data between the CPU and memory on AT board.
		SG	OK , NG	Displays a state of communication for control data between the SG board and CPU on AT board.
		DA	OK , NG	Displays a state of communication for control data between DA board and CPU on AT board.
		IF	OK , NG	Displays a state of communication for control data between IF board and CPU on AT board.
		MD	OK , NG	Displays a self-diagnosis result of MD board in connection with CCU.
		AU	OK , NG	Displays a self-diagnosis result of AU board in connection with CCU.
		TR	OK , NG	Displays a self-diagnosis result of TR board in connection with CCU.

- c) When executing the LEVEL AUTO, data set through the menu is all cleared and the automatic level adjustment is performed in sequence. After the adjustment is complete, adjustment result is stored as a master setup data.
1. A reference file which is reference for adjustment is loaded .
 2. Lens is automatically closed and the black balance is automatically adjusted.
 3. The white balance is automatically adjust using TEST 2 (3-step) signal.

Notes

This white balance adjustment compensates a drift of the gain of an amplifier, does not compensate color temperature for an actual object. The gamma and knee compensation values do not change with a lapse of time because of the digital-processing camera. Therefore, the gamma and knee compensation values remains the values stored in the reference file.

Page	Ver.	Item	Settings	Contents
CAMERA ID		No.	1 to 96 (X)	Sets a camera number in the range of 1 to 96. (When no camera number is set, "- " is displayed.)
		ID:		Sets a camera ID of up to ten alphanumerics, symbols, and spaces.
	1.10	No. / ID ON BARS	CAM No., CAM ID, OFF	Selects whether the camera number or ID is mixed with a camera output signal only in the color-bar mode, or not. (This setting is valid only when the DISPLAY switch is set to on or off.)
LENS FILE	1.10	CENTER H POS	-20 to 20 (XX)	Shifts horizontally the location of the center marker on the screen. 20 (right) ↔ -20 (left)
	1.10	CENTER V POS	-20 to 20 (XX)	Shifts vertically the location of the center marker on the screen. 20 (up) ↔ -20 (down)
	1.10	CENTER POS STORE	Throw MENU SELECT switch to ENTER to execute	Stores the location of the center marker at present in the selected lens file number.
	1.10	No.	0 to 15	Shows a lens file number. (A lens file appropriate for the mounted lens is automatically selected.) ^{d)} (Example) No. : 1 ← Lens file number (0 to15) Lens:27:A14x8BERM ← Lens name EX: 1.0 ← Lens extender value

d) Fifty kinds of lenses are registered at the factory in the ROM IC36/AT-95 board. Up to 16 of these lenses can be stored as the lens file in the RAM IC26/AT-95 board. An additional data such as a center marker is also stored in the selected lens file.

3-1-2. Paint Menu

The Paint menu is used for white and other paint adjustments items. To activate the Paint menu, first display the TOP menu.

(Boxed items under “Settings” indicate the factory setting.)

Page	Ver.	Item	Settings	Contents
VIDEO LEVEL		WHITE R/G/B	–99 to 99 (0)	Adjusts the R, G, B gain level.
		BLACK R/G/B/M	–99 to 99 (0)	Adjusts the R, G, B master black level.
		FLARE R/G/B	–99 to 99 (0)	Adjusts the R, G, B flare level.
		GAMMA R/G/B/M	–99 to 99 (0)	Adjusts the R, G, B master gamma correction curve.
		FLARE	ON , OFF	Turns the flare correction circuit on and off.
		TEST	1, 2, OFF	Selects the test signal. 1 : Outputs the sawtooth waveform test signal 2 : Outputs 3-step waveform test signal OFF : no test signal is output
		CLEAR	Throw MENU SELECT switch to ENTER to execute.	Sets all settings on the VIDEO LEVEL page to 0. (When you throw MENU SELECT switch to ENTER, the “CLEAR” indication flashes. Throw MENU SELECT switch to ENTER again to execute; throw to CANCEL to cancel.)
DETAIL1		DETAIL	ON , OFF	Turns the function on and off to improve resolution by adding the detail signal.
		LEVEL	–99 to 99 (0)	Adjusts the master level for the detail signal.
		LIMITTER	–99 to 99 (0)	Adjusts the clipping level against the maximum detail level.
		CRISPENING	–99 to 99 (0)	Adjusts the level at which the detail signal is crispened.
		LEVEL DEP	–99 to 99 (0)	Adjusts the level to control the detail signal used at lower signal level.
		LEVEL DEP	ON , OFF	Turns the level depend function on and off.
		TEST	1, 2, OFF	Selects the test signal. 1 : Outputs the sawtooth waveform test signal 2 : Outputs 3-step waveform test signal OFF : No test signal is output
		CLEAR	Throw MENU SELECT switch to ENTER to execute.	Sets all settings on the DETAIL 1 page to 0. (When you throw MENU SELECT switch to ENTER, the “CLEAR” indication flashes. Throw MENU SELECT switch to ENTER again to execute; throw to CANCEL to cancel.)
DETAIL2		DETAIL	ON , OFF	Turns the function on and off to improve resolution by adding detail signal.
		H/V RATIO	–99 to 99 (0)	Adjusts the mix ratio of H and V detail signal.
		FREQUENCY	–99 to 99 (0)	Adjusts the boost frequency for H detail signal.
		MIX RATIO	–99 to 99 (0)	Adjusts the mix ratio of H detail signal used before and after the gamma compensation circuit.
		W.LIMITTER	–99 to 99 (0)	Adjust the clipping level against the higher detail signal at the maximum level.
		B.LIMITTER	–99 to 99 (0)	Adjusts the clipping level against the lower detail signal at the minimum level.
		COMB	–99 to 99 (0)	Sets the effect volume of the comb filter 99 (Causes less cross colors.) ↔ –99 (Yields clear pictures, but causes more cross colors.) * For a PAL model, this function has the effect on not every object but a specified object.
		KNEE APRT.	ON, OFF	Turns the knee aperture function on and off.
		TEST	1, 2, OFF	Selects the test signal. 1 : Outputs the sawtooth waveform test signal 2 : Outputs 3-step waveform test signal OFF : No test signal is output

(Continued)

Page	Ver.	Item	Settings	Contents
DETAIL2		CLEAR	Throw MENU SELECT switch to ENTER to execute	Sets all settings on the DETAIL2 page to 0. (When you throw MENU SELECT switch to ENTER, the "CLEAR" indication flashes. Throw MENU SELECT switch to ENTER again to execute; throw to CANCEL to cancel.)
SKIN DETAIL		SKIN DETAIL	ON, ☐ OFF	Turns the skin detail function on and off.
		LEVEL	–99 to 99 (0)	Adjusts the level of the skin detail.
		PHASE	100° to 170° (120)	Adjusts the hue for the skin detail function.
		WIDTH	0° to 90° (60)	Adjusts the color width for the skin detail function.
		SATURATION	–99 to 99 (0)	Adjusts the color saturation of the skin detail function.
		GATE	ON, ☐ OFF	Turns the area display of the skin detail function in the viewfinder screen.
	1.10	AUTO HUE	Throw MENU SELECT switch to ENTER to execute.	Sets the range of skin detail hue function automatically. (Locate the desired skin color within the gate marker of VF and measure.)
		CLEAR	Throw MENU SELECT switch to ENTER to execute.	Sets all settings on the SKIN DETAIL page to 0. (When you throw MENU SELECT switch to ENTER, the "CLEAR" indication flashes. Throw MENU SELECT switch to ENTER again to execute; throw to CANCEL to cancel.)
GAMMA		GAMMA, R/G/B/M	–99 to 99 (0)	Adjusts the R, G, B and master gamma level.
		COARSE	0.40, 0.45 , 0.50	Selects the gamma value in steps.
		GAMMA	☐ ON, OFF	Turns the gamma value on and off.
	1.07	BLACK GAMMA	–99 to 99 (0)	Adjusts the black gamma (master). ^{e)}
	1.07	BLACK GAMMA	ON, ☐ OFF	Turns the black gamma function on and off. ^{e)}
		TEST	1, 2, ☐ OFF	Selects the test signal. 1 : Outputs the sawtooth waveform test signal 2 : Outputs 3-step waveform test signal OFF : No test signal is output
		CLEAR	Throw MENU SELECT switch to ENTER to execute.	Resets all settings on the GAMMA page to the factory settings. (When you throw MENU SELECT switch to ENTER, the "CLEAR" indication flashes. Throw MENU SELECT switch to ENTER again to execute; throw to CANCEL to cancel.)
KNEE/W.CLIP		POINT	–99 to 99 (0)	Adjusts the knee point level when the function is OFF.
		SLOPE	–99 to 99 (0)	Adjusts the knee slope level when the function is OFF.
		KNEE	☐ ON, OFF	Turns the knee function on and off.
		AUTO KNEE	ON, ☐ OFF	Turns the auto knee function on and off.
		KNEE MAX	ON, ☐ OFF	Turns on and off the knee max function which changes the slope to completely collapsed form.
		WHITE CLIP	–99 to 99 (0)	Adjusts the white clip level.
		WHITE CLIP	☐ ON, OFF	Turn the white clip function on and off.
		TEST	1, 2, ☐ OFF	Selects the test signal. 1 : Outputs the sawtooth waveform test signal 2 : Outputs 3-step waveform test signal OFF : No test signal is output
		CLEAR	Throw MENU SELECT switch to ENTER to execute.	Sets all settings on the KNEE/W.CLIP page to 0. (When you throw MENU SELECT switch to ENTER, the "CLEAR" indication flashes. Throw MENU SELECT switch to ENTER again to execute; throw to CANCEL to cancel.)

e) This function is inhibited while TALLY lamps are lit or by the setting of the System Config menu.
A noise appears on the screen during operation.

Page	Ver.	Item	Settings	Contents
MATRIX		G-R, B-R	-99 to 99 (0)	Compensates the user's matrix (sets an optional value as the constant for G-R, B-R, R-G, B-G, R-B and G-B).
		R-G, B-G	-99 to 99 (0)	
		R-B, G-B	-99 to 99 (0)	
		MATRIX	ON , OFF	Turns the matrix compensation on and off.
		USER ^{f)}	ON , OFF	Turns the user's matrix compensation on and off.
		PRESET ^{f)}	ON , OFF	Turns on and off only the preset matrix compensation (fixed constant compensation).
		TEST	1, 2, OFF	Selects the test signal. 1 : Outputs the sawtooth waveform test signal 2 : Outputs 3-step form test signal OFF : No test signal is output
		CLEAR	Throw MENU SELECT switch to ENTER to execute.	Sets all settings on the MATRIX page to 0. (When you throw MENU SELECT switch to ENTER, the "CLEAR" indication flashes. Throw MENU SELECT switch to ENTER again to execute; throw to CANCEL to cancel.)
SCENE FILE		1	Storing and recalling a scene file (painting data corresponding to a shot scene)	
		2	Storing a scene file	
		3	1 Turn MENU SELECT knob to move the → cursor to "FILE STORE," then throw MENU SELECT	
		4	switch to ENTER. "FILE STORE" flashes on the viewfinder screen.	
		5	2 Select the file number (1 to 5) to be stored to.	
		FILE STORE	(If data is already stored at the selected location, the new data replaces the current data.) Recalling a scene file Turn MENU SELECT knob to move the → cursor to the file number whose data is to be recalled, then throw MENU SELECT switch to ENTER. • Every time MENU SELECT switch is pushed up to ENTER, the scene file data replaces the current settings. • When the scene file is recalled, an asterisk appears next to the number.	
		STANDARD	Returns the current amount of paint adjustments and switch setting to their reference value stored as a reference file.	
SHUTTER	1.10	SELECT	OFF , SHUTTER, EVS, ECS	Selects the shutter, EVS, or ECS mode.
	1.10	SHUTTER	$\frac{1}{100}$ (or $\frac{1}{60}$), $\frac{1}{125}$, $\frac{1}{250}$, $\frac{1}{500}$, $\frac{1}{1000}$, $\frac{1}{2000}$	Selects the shutter speed.
	1.10	ECS	^{h)}	Sets the ECS (CLS) frequency.
	1.10	S-EVS	0 to 100%	Sets the desired resolution in %. (This setting is invalid with the OHB-400/400P installed.)
OTHERS	1.09	16:9/4:3 MODE	16:9 , 4:3	Selects the aspect ratio for the video signal output. ⁱ⁾

f) When both USER and PRESET are set to ON, the matrix constant compensation is total value of the USER and PRESET matrix.

h) Variable range differs depending on the OHB in use. For details refer to the operation manual supplied with the OHB.

i) The aspect ratio normally corresponds to the CCU's setting when the CCU is connected. To forcefully select, use this menu.

3-1-3. Maintenance Menu

The Maintenance menu is used for encoder output level and other adjustments items necessary for camera's maintenance. The Maintenance menu is not normally accessible. To display this menu, switch setting of the AT-95 board is required.

For details, refer to Section 1-5. "Function of Internal Switches—AT-95 board".

To activate the Maintenance menu, first display the TOP menu.

(Boxed items under "Settings" indicate the factory setting.)

Page	Ver.	Item	Settings	Contents
VBS		SYNC LEVEL	-99 to 99 (XX)	Adjusts the sync level of camera's encoder output signal.
		Y LEVEL	-99 to 99 (XX)	Adjusts the Y level of camera's encoder output signal.
		BURST LEVEL	-99 to 99 (XX)	Adjusts the burst level of camera's encoder output signal.
		CHROMA LEVEL	-99 to 99 (XX)	Adjusts the chroma level of camera's encoder output signal.
		Q/V LEVEL	-99 to 99 (XX)	Adjusts the Q (or V) level of camera's encoder output signal.
		SET UP	-99 to 99 (XX)	Adjusts the sync level of camera's encoder output signal. (This setting is valid only for NTSC.)
		BF PHASE	-99 to 99 (XX)	Adjusts the burst phase of camera's encoder output signal.
		SC-H PHASE	-99 to 99 (XX)	Adjusts the SC-H phase of camera's encoder output signal.
		V BLANKING	19, 20 , 21H	Adjusts the V blanking width of camera's encoder output signal. (This setting is valid only for NTSC.) In connection with CCU, the width is fixed to 19H. * For a PAL model, the width is fixed to 25H at all times.
WHITE SHADING		V SAW R/G/B	-99 to 99 (XX)	Adjusts the volume of V.SAW compensation for the R, G, or B white shading.
		V PARA R/G/B	-99 to 99 (XX)	Adjusts the volume of V.PARA compensation for the R, G, or B white shading.
		H SAW R/G/B	-99 to 99 (XX)	Adjusts the volume of H.SAW compensation for the R, G, or B white shading.
		H PARA R/G/B	-99 to 99 (XX)	Adjusts the volume of H.PARA compensation for the R, G, or B white shading.
		WHITE R/G/B	-99 to 99 (XX)	Adjusts the R, G, or B white level.
		V MOD R/G/B/M	-99 to 99 (XX)	Adjusts the volume of V.SAW compensation for the R, G, B or master modulation shading of the lens and prism. ^{j)}
		V MOD	ON, OFF	Turns the V modulation shading on and off.
		AUTO WHITE	Throw MENU SELECT switch to ENTER to execute.	Starts to automatically adjust the white balance.
BLACK SHADING		CLEAR	Throw MENU SELECT switch to ENTER to execute.	Resets numeric settings to "0" on the WHITE SHADING page. (When you throw MENU SELECT switch to ENTER, the "CLEAR" indication flashes. Throw MENU SELECT switch to ENTER again to execute; throw to CANCEL to cancel.)
		V SAW R/G/B	-99 to 99 (XX)	Adjusts the volume of V.SAW compensation for the R, G, or B black shading.
		H SAW R/G/B	-99 to 99 (XX)	Adjusts the volume of H.SAW compensation for the R, G, or B black shading.
		BLK SET R/G/B	-99 to 99 (XX)	Adjusts the volume of BLACK SET compensation for the R, G, or B. (Adjusts for each gain.)
		BLACK R/G/B/M	-99 to 99 (XX)	Adjusts the R, G, B or master black level.
(Continued)		MASTER GAIN	-3,0,3,6,9,12,18,24,30 dB (X)	Selects the master gain value.
		AUTO BLACK	Throw MENU SELECT switch to ENTER to execute.	Starts to automatically adjust the black balance.

j) When the master modulation shading is adjusted, the V. SAW component for the R and B V-modulation shadings of the prism is simultaneously compensated.

Page	Ver.	Item	Settings	Contents
BLACK SHADING		CLEAR	Throw MENU SELECT switch to ENTER to execute.	Resets numeric settings to "0" on the BLACK SHADING page. (When you throw MENU SELECT switch to ENTER, the "CLEAR" indication flashes. Throw MENU SELECT switch to ENTER again to execute; throw to CANCEL to cancel.)
AUTO SET UP		AUTO BLACK	Throw MENU SELECT switch to ENTER to execute.	Starts to automatically adjust the black balance.
		AUTO BLACK	Throw MENU SELECT switch to ENTER to execute.	Starts to automatically adjust the black balance. (To abort a processing during execution, throw MENU SELECT switch to ENTER.)
		LEVEL AUTO	Throw MENU SELECT switch to ENTER to execute.	Starts to automatically adjust the level in the internal circuits. ^{c)} (To abort a processing during execution, throw MENU SELECT switch to ENTER.)
	1.10	AUTO HUE	Throw MENU SELECT switch to ENTER to execute.	Sets the skin detail hue function automatically. (Locate the desired skin color within the gate marker of VF and measure.)
		WHITE SHADING	Throw MENU SELECT switch to ENTER to execute.	Starts to automatically adjust the white shading. (To abort a processing during execution, throw MENU SELECT switch to ENTER.)
		BLACK SHADING	Throw MENU SELECT switch to ENTER to execute.	Starts to automatically adjust the black shading. ^{k)} (To abort a processing during execution, throw MENU SELECT switch to ENTER.)
	1.10	COLOR REF (SELF)	Throw MENU SELECT switch to ENTER to execute.	Makes a color reference to compensate the difference in colors between OHBs using a single camera. (Locate the desired colors of a Macbeth chart within the gate marker of VF and measure. To abort a processing during execution, throw MENU SELECT switch to ENTER.) ^{m)}
	1.10	COLOR SETUP (SELF)	Throw MENU SELECT switch to ENTER to execute.	Automatically calculates the color matrix from the reference. (Locate the desired colors of a Macbeth chart within the gate marker of VF and measure. To abort a processing during execution, throw MENU SELECT switch to ENTER.) ⁿ⁾
DATE/TIME		DD/MM/YY HH:MM:SS		Adjusts a built-in timer. (HH;hour/MM;minute only)
		DATE ON BARS ON, ☐		Selects whether the date characters are mixed with a camera output signal in the color-bar mode, or not. (This setting is valid only when the DISPLAY switch is set to on or off.)
		TIME ON BARS ON, ☐		Selects whether the time characters are mixed with a camera output signal in the color-bar mode, or not. (This setting is valid only when the DISPLAY switch is set to on or off.)

- c) When executing the LEVEL AUTO, data set through the menu is all cleared and the automatic level adjustment is performed in sequence. After the adjustment is complete, adjustment result is stored as a master setup data.
1. A reference file which is reference for adjustment is loaded .
 2. Lens is automatically closed and the black balance is automatically adjusted.
 3. The white balance is automatically adjust using TEST 2 (3-step) signal.

Notes

This white balance adjustment compensates a drift of the gain of an amplifier, does not compensate color temperature for an actual object. The gamma and knee compensation values do not change with a lapse of time because of the digital-processing camera. Therefore, the gamma and knee compensation values remains the values stored in the reference file.

- k) Before first using the camera with the OHB-400/500/500WS (or their PAL version) installed, or After replacing the CCD unit, be sure to execute the automatic black shading adjustment.
- m) When performing compensation between two or more cameras, use the MSU.
- n) Differing from the color-setup operation by plural cameras, a data transfer is not performed. Execute to recalculate. After execution, the color matrix data is temporarily reflected in the OHB matrix of the System Config menu. Execute the OHB FILE STORE of the Trimming menu to store the color matrix data.

Page	Ver.	Item	Settings	Contents
OTHERS		S/N MEASURE	ON, ☐	ON : Set to ON in measuring the S/N ratio. And settings of the DETAIL, CHROMA, GAMMA, MATRIX, and FLARE will be temporarily turned OFF. OFF : Settings of DETAIL and so on are returned as they were.
		MOD	ON, ☐	ON : Set to ON in measuring the modulation depth. And settings of the MEASUREDETAIL, GAMMA, MATRIX, and FLARE will be temporarily turned OFF. OFF : Settings of DETAIL and so on are returned as they were.
		MASTER BLACK	-99 to 99 ()	Adjusts the master black in measuring the S/N ratio and modulation depth.
		DETAIL	☐ , OFF	
		CHROMA	☐ , OFF	
		GAMMA	☐ , OFF	
		MATRIX	☐ , OFF	
		FLARE	☐ , OFF	

3-1-4. Reference Menu

The Reference menu stores the reference values used for automatic setup adjustment and the standard settings of the switches as the reference files. And the menu can clear the current reference files. The Reference menu is not normally accessible. To display this menu, switch setting of the AT-95 board is required. For details, refer to Section 1-5. “Function of Internal Switches—AT-95 board”. To activate the Reference menu, first display the TOP menu.

Notes

1. Executing the FILE STORE on the REFERENCE FILE page registers settings of items, which have been set through the Paint, Maintenance and System config menus just before the file store, as the reference values.
2. When changed numbers of items are returned to the reference values stored as the reference files, recall the standard file using an MSU/RCP or the setup menu.

Page	Ver.	Item	Settings	Contents
REFERENCE FILE		FILE STORE	Throw MENU SELECT switch to ENTER to execute.	Stores the adjustment value on each item as the reference value.
		CLEAR FILE	Throw MENU SELECT switch to ENTER to execute.	Clears the adjustment values stored as the reference files. (Temporarily clears the current reference files ^{p)} .)

p) If the power is turned off without execution of the FILE STORE after clearing the file, the original setting is restored.

3-1-5. Trimming Menu

The Trimming menu stores the adjustment data in replacing parts as the trimming files. And the menu can clear the current adjustment values. The Trimming menu is not normally accessible. To display this menu, switch setting of the AT-95 board is required. For details, refer to Section 1-5. “Function of Internal Switches—AT-95 board”. To activate the Trimming menu, first display the TOP menu.

Note

Executing the FILE STORE on the TRIMMING FILE page registers settings of items, which have been set through the Maintenance and System config menus just before the file store, as the reference values.

Page	Ver.	Item	Settings	Contents
TRIMMING FILE		FILE STORE	Throw MENU SELECT switch to ENTER to execute.	Stores the adjustment value on each item as the reference value.
		CLEAR FILE	Throw MENU SELECT switch to ENTER to execute.	Clears the adjustment values stored as the trimming files. (Temporarily clears the current trimming files ^{p)} .)
OHB FILE		FILE STORE	Throw MENU SELECT switch to ENTER to execute.	Stores specific data for a CCD unit to be used as the OHB files. The standard values are stored at the factory. (Stores the offset value, OHB matrix data and so on.)
LENS FILE	1.10	LENS FILE STORE	Throw MENU SELECT switch to ENTER to execute.	Stores specific data for a lens to be used as the lens files. The standard values are stored at the factory.
	1.10	SELECT CURRENT LENS	[0] to 49	Loads a lens data into the lens file selected at present by the LENS FILE page of the Operation menu.
	1.10	RESET ALL LENS	Throw MENU SELECT switch to ENTER to execute.	Resets all of 16 lens files. (Example) No. : 1 ← Lens stored number (0 to 49) Lens: 27:A14x8BERM ← Lens name EX: 1.0 ← Lens extender value

p) If the power is turned off without execution of the FILE STORE after clearing the file, the original setting is restored.

3-1-6. System Config Menu

The System config menu is used for adjustments items necessary to replace a printed circuit board or some parts of the camera. The System config menu is not normally accessible. To display this menu, switch setting of the AT-95 board is required. For details, refer to Section 1-5. “Function of Internal Switches—AT-95 board”. To activate the System config menu, first display the TOP menu.

(Boxed items under “Settings” indicate the factory setting. XX or XXX represents two or three digits in hexadecimal.)

Page	Ver.	Item	Settings	Contents
DATE/TIME		YY/MM/DD HH:MM:SS		Adjusts the built-in calender and timer.
		RESET	Turn MENU SELECT knob to execute.	Resets hour (HH), minute (MM) and second (SS) of the timer.
Y/CHROMA		SC FREQ	XXX (XX)	Adjusts the camera's subcarrier frequency.
		Y SYNC	XXX (XX)	Adjusts the sync level of camera's Y output signal.
		Y SETUP	XXX (XX)	Adjusts the setup level of camera's Y output signal.
		Y VIDEO	XXX (XX)	Adjusts the Y level of camera's Y output signal.
		TEST SETUP	XXX (XX)	Adjusts the setup level of camera's encoder output signal.
		BURST LVL	XXX (XX)	Adjusts the burst level of camera's encoder output signal.
		CHROMA LVL	XXX (XX)	Adjusts the chroma level of camera's encoder output signal.
		Q/V LEVEL	XXX (XX)	Adjusts the Q(V) level of camera's encoder output signal.
		SC-H PHASE	XXX (XX)	Adjusts the SC-H phase of camera's encoder output signal.
		REG LVL	XXX (XX)	Adjusts the level of the R, G and B output signals.
		CB	ON, OFF	Turns on and off the camera color-bar signal to be output in setting each item on the Y/CHROMA page.
PR/VA/TEST		PR ADG R/G/B	XXX (XX)	Adjusts the reference level of the AD converter for R/G/B signals on the PR board.
		VA MOD R/G/B	XXX (XX)	Adjusts the R, G or B modulation balance for the VA board.
		G CLOCK	XXX (XX)	Adjusts the clock pulse in phase to be input to the AD converter for G signal on the PR board. (Note : In replacing OHB, readjustment is required to set the maximum value of the modulation depth.)
		R/B CLOCK	XXX (XX)	Adjusts the clock pulse in phase to be input to the AD converter for R/B signals on the PR board. (Note: In replacing OHB, readjustment is required to set the minimum level of a pseudo signal.)
		M.BLACK	XXX (XX)	Adjusts the master black signal.
		TEST2 HI	XXX (XX)	Adjusts the high level of the TEST2 (3-STEP) signal on the VA board.
		TEST2 MID	XXX (XX)	Adjusts the middle level of the TEST2 (3-STEP) signal on the VA board.
		TEST CLIP	XXX (XX)	Adjusts the clip level of the TEST1 (sawtooth) signal on the VA board.
		TEST	1, 2, OFF	Selects a TEST signal to be output in setting each item on the PR/VR/TEST page. 1 : Outputs the sawtooth test signal 2 : Outputs the 3-step waveform test signal OFF : No test signal is output
PRE KNEE/ ZEBRA		PREKNEE1 R/G/B	XXX (XX)	Adjusts the R, G or B pre-knee 1 level on the VA board.
(Continued)		PREKNEE2 R/G/B	XXX (XX)	Adjusts the R, G or B pre-knee 2 level on the VA board.
		APERTURE	XXX (XX)	Adjusts the aperture compensation signal level.

Page	Ver.	Item	Settings	Contents
PRE KNEE/ ZEBRA		WHITE CLIP	XXX (XX)	Adjusts the white clip level.
		WHITE CLIP	ON, OFF	Turns the white clip function on and off.
		ZEBRA1 LEVEL, RANGE	XXX (XX)	Sets the center value and range for the zebra 1 signal detection.
		ZEBRA2 LEVEL	XXX (XX)	Sets the detection value for the zebra 2 signal.
		Z.DISP	1,2, 1&2	Selects a zebra signal to be displayed on the viewfinder. 1 : Zebra 1 signal 2 : Zebra 2 signal 1&2 : Both zebra 1 and 2 signals are displayed at the same time.
		TEST	1, 2, OFF	Selects a TEST signal to be output in setting each item on the PREKNEE/ZEBRA page. 1 : Outputs the sawtooth test signal 2 : Outputs the 3-step waveform test signal OFF : No test signal is output
VTR/CCU		VTR R-Y	XXX (XX)	Adjusts the R-Y color-difference signal level.
		VTR B-Y	XXX (XX)	Adjusts the B-Y color-difference signal level.
		CCU Y SAMP	XXX (XX)	Adjusts the level of the sample pulse to be mixed with the Y signal.
		CCU R-Y SYNC	XXX (XX)	Adjusts the level of the sync pulse to be mixed with the R-Y signal.
		CCU B-Y SAMP	XXX (XX)	Adjusts the level of the sample pulse to be mixed with the B-Y signal.
		RGB OFFSET	XXX (XX)	Adjusts the G signal level.
		TEST	1, 2, OFF	Selects a TEST signal to be output in setting each item on the VTR/CCU page. 1 : Outputs the sawtooth test signal 2 : Outputs the 3-step waveform test signal OFF : No test signal is output
		CB	ON, OFF	Turns on and off the camera color-bar signal to be output in setting each item on the VTR/CCU page.
IRIS		LEVEL	XXX (XX)	Adjusts the auto-iris level.
		APL RATIO	XXX (XX)	Sets the way the iris is automatically adjusted. -99 (PEAK) ↔ 99 (AVERAGE)

Page	Ver.	Item	Settings	Contents
COLOR SETUP	1.10	COLOR REF (SELF)	Throw MENU SELECT switch to ENTER to execute.	Makes a color reference to compensate the difference in colors between OHBs using a single camera. (Locate the desired colors of a Macbeth chart within the gate marker of VF and measure. To abort a processing during execution, throw MENU SELECT switch to ENTER.) ^{m)}
	1.10	COLOR SETUP (SELF) 3-1. Setup Menu 3-1-6 System Config Menu	Throw MENU SELECT switch to ENTER to execute.	Automatically calculates the color matrix from the reference. (Locate the desired colors of a Macbeth chart within the gate marker of VF and measure. To abort a processing during execution, throw MENU SELECT switch to ENTER.) ⁿ⁾
	1.10	(OHB MATRIX) G-R, B-R R-G, B-G R-B, G-B	-99 to 99 (0) -99 to 99 (0) -99 to 99 (0)	Compensates the OHB matrix to adjust the difference between OHBs or cameras (sets an optional value as the constant for G-R, B-R, R-G, B-G, R-B and G-B). ^{r)}
	1.10	OHB MTX	ON , OFF	Turns the OHB matrix compensation on and off.
	1.10	CM ADD LVL	0 to 16	For fine adjustment in color-setup operation. Compensates the calculation value for the color selected by the CM ADD COLOR in 16 steps and recalculates the OHB matrix. (Selecting 0 turns off the function.) ^{s) t)}
	1.10	CM ADD COLOR	0 to 17	For fine adjustment in color-setup operation. Select a color to be compensated from 18 colors of the Macbeth chart with the gate marker of VF.

Recalculates the OHB matrix. ^{l)}

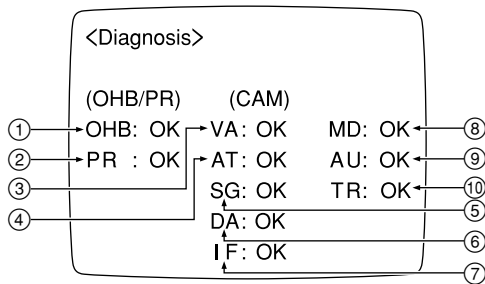
- m) When performing compensation between two or more cameras, use the MSU.
- n) Differing from the color-setup operation by plural cameras, a data transfer is not performed.
Execute to recalculate. After execution, the color matrix data is temporarily reflected in the OHB matrix of the System Config menu.
Execute the OHB FILE STORE of the Triming menu to store the color matrix data.
- r) Adjust with the MATRIX of the Paint menu turned OFF. Execute the OHB FILE STORE to store the adjustment values.
- s) The compensation value is temporarily reflected in the OHB matrix of the System Config menu after execution of the COLOR
SETUP(SELF). Execute the OHB FILE STORE of the Triming menu to store the value.
The higher you set the value of the CM ADD LVL, the more the weights are assigned to the color selected by the CM ADD COLOR.
The compensation is performed so as to entirely minimize the error, while reducing the error for the weights-assigned color.
- t) After powered off once following the completion of color-setup operation, recalculation is not performed.

Page	Ver.	Item	Settings	Contents																									
OTHERS 1		FILTER,WHT MEM	ON , OFF	Does not function in the unit. (The setting change becomes invalid.)																									
		NTSC ENC	WIDE , NRW	Sets the band width of the Q signal for the NTSC color encoder.																									
		ROTARY	STD , RVS	Selects the mode of MENU SELECT knob as turned clockwise. STD : Cursor moves downwards and a numeric value increases. RVS : Cursor moves upwards and a numeric value decreases.																									
		OWN CALL	R, F&R , OFF	Selects whether TALLY lamps are lit corresponding to the CALL button on rear panel pressed, or not. Or selects which TALLY lamps are lit when the CALL button is pressed. (This setting is valid in connection with CCU. When the standalone unit is installed and MSU/RCP is not connected to the camera, it is always set to OFF.) R : Red TALLY lamps of VF are lit. R&F : Red TALLY lamps of VF and UP TALLY lamps of VF and camera are lit. OFF : No TALLY lamp is lit corresponding to the CALL button.																									
		CENTER H POS	−20 to 20 (XX)	Shifts horizontally the location of the center marker on the screen. 20 (right) ↔ −20 (left)																									
		CENTER V POS	−20 to 20 (XX)	Shifts vertically the location of the center marker on the screen. 20 (up) ↔ −20 (down)																									
		LENS VTR S/S	TALK, RET2	Selects the mode of VTR S/S SW of the lens. TALK : VTR S/S SW functions as INCOM TALK SW (momentary). RET2 : VTR S/S SW functions as RET2 SW.																									
		VF ? DISPLAY	ON , OFF	Turns on and off the indication of ? mark at the top-right of the VF screen with the DISP switch set to ON when the self-diagnosis result is NG (no good) and so on.																									
		PinP RET RVS	RVS1 , RVS 2, OFF	Selects the indication mode of VF display in PinP mode.																									
				<table><tr><th>Setting</th><th>RET 1 (or 2, 3) SW</th><th>Large screen</th><th>Small screen</th></tr><tr><td rowspan="2">RVS 1</td><td>ON</td><td>RET 1 (2, 3) video</td><td>Camera output</td></tr><tr><td>OFF</td><td>Camera output</td><td>The last RET video selected</td></tr><tr><td rowspan="2">RVS 2</td><td>ON</td><td>RET 1 (2, 3) video</td><td>Camera output</td></tr><tr><td>OFF</td><td colspan="2">Camera output is displayed on the whole screen. (Small screen is not displayed.)</td></tr><tr><td rowspan="2">OFF</td><td>ON</td><td>Camera output</td><td>RET 1 (2, 3) video</td></tr><tr><td>OFF</td><td colspan="2">Camera output is displayed on the whole screen. (Small screen is not displayed.)</td></tr></table>	Setting	RET 1 (or 2, 3) SW	Large screen	Small screen	RVS 1	ON	RET 1 (2, 3) video	Camera output	OFF	Camera output	The last RET video selected	RVS 2	ON	RET 1 (2, 3) video	Camera output	OFF	Camera output is displayed on the whole screen. (Small screen is not displayed.)		OFF	ON	Camera output	RET 1 (2, 3) video	OFF	Camera output is displayed on the whole screen. (Small screen is not displayed.)	
Setting	RET 1 (or 2, 3) SW	Large screen	Small screen																										
RVS 1	ON	RET 1 (2, 3) video	Camera output																										
	OFF	Camera output	The last RET video selected																										
RVS 2	ON	RET 1 (2, 3) video	Camera output																										
	OFF	Camera output is displayed on the whole screen. (Small screen is not displayed.)																											
OFF	ON	Camera output	RET 1 (2, 3) video																										
	OFF	Camera output is displayed on the whole screen. (Small screen is not displayed.)																											
* To output RET 3 video signal, press RET 1 and 2 switches at the same time.																													
OTHERS 2		F TALLY RVS	ON , OFF	Selects the operation mode of TALLY lamps corresponding to a CALL button pressed when a TALLY signal is input to the camera from CCU or VTR. ON : Red TALLY lamps of VF and UP TALLY lamps of VF and camera go out. OFF : Red TALLY lamps of VF alone go out.																									
	1.07	BLK GAM INHIBIT	ON , OFF	ON : Inhibits the black gamma adjustment and on/off function from the MSU or Paint manu. OFF: Enables the above operation.																									
	1.10	CHAR CAM No.	1,2,3 , A,B,C	Selects the indication mode of the camera number set by the CAMERA No. page of Operation menu. 1,2,3 : Indicates in numerics. A,B,C: Indicates camera numbers 1 to 27 in alphabetical order of A to Z. (When connecting 28 or more cameras, select “1,2,3”.)																									
	1.10	WHT SETUP MODE	AWB , LEVEL	AWB : After executing the LEVEL AUTO, white balance adjustment data returns to the value before execution. LEVEL: After executing the LEVEL AUTO, white balance adjustment data changes to the value after the white balance is adjusted using TEST 2 signal.																									
	1.10	AW SHADING MODE	RGB , RB ONLY	RGB : When automatically adjusting the white balance, R, G, and B signal waveforms are all flattened. RB ONLY : When automatically adjusting the white balance, R and B signal waveforms are flattened.																									

3-2. Self-Diagnosis

The BVP-500/500P has a diagnosis mode used for self-diagnosis of every plug-in board and the OHB. The diagnosis page is displayed on the viewfinder screen.

- Operation
Select “Diagnosis” page of the Operation menu referring to Section 3-1.
- Viewfinder Screen



- Display Descriptions

Marks	Board/Block	Judging Point	Expected Abnormality
①	OHB(CCD UNIT)	Communication with IC18, IC19/TG-159	Communication error
②	PR-211	Communication with IC49	Communication error
③	VA-163	Communication with IC26	Communication error
④	AT-95	Communication with IC46	Communication error
⑤	SG-234	Communication with IC21	Communication error
⑥	DA-88	Communication with IC10	Communication error
⑦	IF-538	Communication with IC603	Communication error
⑧	MD-103	Y RF output Color-difference RF output	• RF carrier levels for Y and R-Y/B-Y are out of specs. * • Improper connection of the board
⑨	AU-211	+7.5 V and INCOM +7.5 V	• Power voltage for the board is out of specs. * • Improper connection of the board
⑩	TR-90	RF output (TP3)	• Carrier level for AUDIO RF is out of specs. * • Improper connection of the board

* Only when no video signal is input.

Note

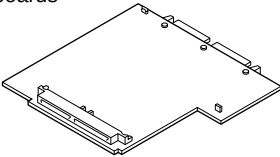
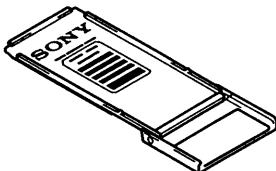
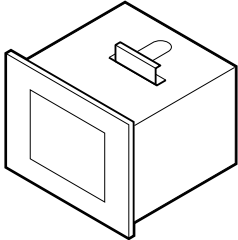
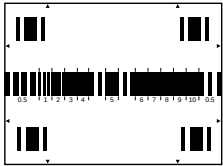
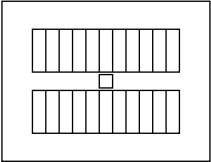
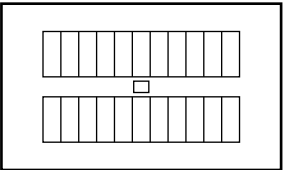
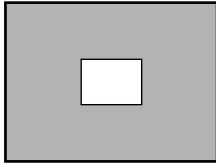
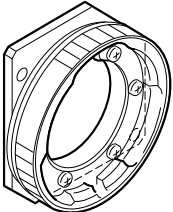
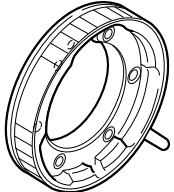
When the BVP-500/500P is not connected to the CCU, the columns ⑧, ⑨ and ⑩ will display “--”.

Section 4

Alignment for OHB Installation

4-1. Preparation

4-1-1. Equipment Required

Extension board EX-464 Sony P/N: J-6395-040-A For BVP-500/500P plug-in boards 	Extension board BKP-7900 (Option) For CCU-700/700P plug-in boards 
Multiburst Chart Sony P/N: J-6026-110-A 	Pattern box PTB-500 Sony P/N: J-6029-140-B • Light source for test chart Power supply AC90 to 240V 
Grayscale Chart Sony P/N: J-6026-130-B 	Grayscale Chart (16:9) Sony P/N: J-6394-080-A 
White Window Chart Make a square hole at the center of a black sheet of paper. 	Portable Lens Attachment Sony P/N: J-6395-080-A For OHB-400 series 
Portable Lens Attachment Sony P/N: J-6395-090-A For OHB-500/500WS series 	

Measuring Equipment

- Frequency counter
Advantest TR5821AK or equivalent
- Oscilloscope
Tektronix 2465 or equivalent
- Waveform monitor/Vectorscope
Tektronix 1750 or equivalent (for NTSC)
Tektronix 1751 or equivalent (for PAL)
- Digital voltmeter
Advantest TR6845 or equivalent
- Video signal generator
Tektronix 1410 or equivalent (for NTSC)
Tektronix 1411 or equivalent (for PAL)
- Color monitor
Sony BVM-1911/2811 or equivalent (for NTSC)
Sony BVM-2011P/3011P or equivalent (for PAL)

Peripheral Equipment

- CCD unit : OHB-400/500/500WS series
- Camera control unit : CCU-700/700P/700A/700AP
- Master setup unit : MSU-700
- TRIAX cable (Standard length: 150 m)

4-1-2. Notes on Adjustment

- All measuring equipment shall be calibrated.
- Also the alignment for the OHB-400/500/500WS (or their PAL version), CCU-700/700P/700A/700AP, and MSU-700 shall be completed.
- To connect each equipment, refer to Section 4-1-4.
- As for initial settings before beginning adjustment, refer to Section 4-1-5.
- Be sure to turn off the power switch on the power assembly of the camera before disconnecting the printed circuit boards.

Note

Allow for about ten seconds until the unit is energized when turning this switch off and then on momentarily.

- About ten-minute warm-up time is allowed before beginning adjustment.
- When using the camera as 16:9 mode together with the OHB-500WS/500WSP, use the specified grayscale chart (J-6394-080-A).
- Paste a black colored velvets (around 3 × 3 cm) to both sides of the white portion in the center of the grayscale chart.
(For more details, consult your Sony service representative.)

4-1-3. Description of Setup Menu

A part of adjustments given in this section uses the setup menu. The setup menu consists of the following menus. Besides there is a TOP menu indicating the entire configuration of menu items.

Operation
Paint
Maintenance
Reference File
Triming File
System config

To display all of the menus, switch setting of the AT-95 board is required. And for details on the setup menu, refer to Section 3.

In this manual, describes the setup menu operation as follows.

Title of the selected page (top right corner display)

For reference:

When Paint→Skin Detail is selected:

MENU : Paint

PAGE : Skin Detail (P4)

Displaying Setup Menu

1. Power on the CCU and MSU.
2. Set the internal switches of the AT-95 board as follows.
S1-1 → ON
S1-2 → OFF
S1-3 → ON
S1-4 → OFF
3. DISPLAY switch/rear panel→OFF
4. POWER switch/camera power assembly→ON
5. Set the DISPLAY switch/rear panel to MENU (from OFF) while pushing up the MENU SELECT switch to ENTER. (TOP menu will be displayed.)

Note

If the power switch is turned off once, perform the above operations again to display the setup menu (steps 3 to 5).

How to change the setting values

To enter or cancel the setting value of items, which can be changed by turning the MENU SELECT knob, proceed as follows.

To enter the setting value;

Press the MENU SELECT switch to ENTER.

To cancel the setting value;

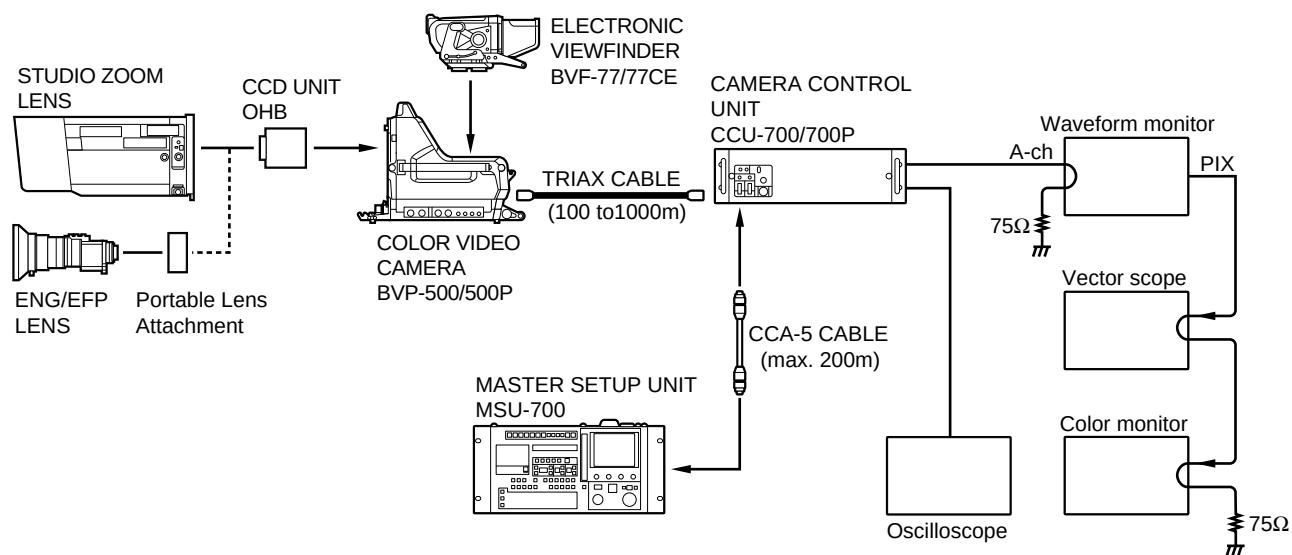
Before pressing the MENU SELECT switch to ENTER, press it to CANCEL. The original setting is restored.

After pressing the MENU SELECT switch to ENTER, the setting can not be canceled.

File Store

If the adjustments in this section are suspended or the unit is powered off to extend a printed circuit board and so on, be sure to execute the FILE STORE before being powered off. (Refer to section 4-20.)

4-1-4. Connection



4-1-5. Initial Settings

BVP-500/500P

Note

When switching the following switches from a customer-set position, it is recommended to record the setting state of the customer in the table below.
After adjustment is complete, be sure to return the switches to their customer-set position.

Board	Switch	Initial setting	Customer-set position
AT-95	S1-1	ON	
	S1-2	OFF	
	S1-3	ON	
	S1-4	OFF	

When adjusting a camera incorporating the OHB-500WS/WSP, be sure to set the setup menu as follows.
MENU : Operation
PAGE : Wide Screen (?4)
ITEM : 16:9/4:3 MODE→16:9

MSU-700 Operation Panel

- CAM POWER/Signal output select buttons
ALL button → OFF (Stays out)
CAM PW button → ON (Stays lit)
VF PW button → ON (Stays lit)
TEST 1 button → OFF (Stays out)
TEST 2 button → OFF (Stays out)
BARS button → OFF (Stays out)
CLOSE button → ON (Stays lit)
- CAM/CCU Function ON/OFF buttons
KNEE OFF button → OFF (Stays lit)
DETAIL OFF button → OFF (Stays lit)
LVL DEP OFF button → OFF (Stays lit)
AUTO KNEE button → OFF (Stays out)
SKIN DETAIL button → OFF (Stays out)
- Others
GAMMA OFF button → ON(Stays out)
MASTER GAIN button→ 0 (0 dB)
FILTER button (ND) → 1 (Stays lit)
FILTER button (CC) → B (Stays lit)
- Menu operation block (Touch panel)
PAINT button →ON
[Δ]→(Page 2/3)→ [White Clip] → [White Clip Off]

Execution of Scene File Standard

STANDARD button/MSU operation panel→ON

4-2. VCO CONT Frequency Confirmation

Notes:

- This confirmation shall be done only when the CCD unit is installed in the camera incorporating the standalone unit BKP-5910/5910P.
- This adjustment requires longer warm-up time periods (10 to 30 minutes).

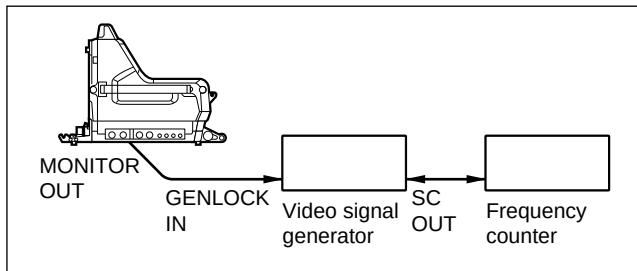
Preparation:

- S650 (MONITOR SELECT)/IF-538 panel → VBS

Equipment : Frequency counter, Video signal generator

Test Point : MONITOR connector

Specifications : 3,579,545 $\pm$ 10 Hz (for NTSC)
4,433,168 $\pm$ 5 Hz (for PAL)



If the specification is not satisfied, perform the following adjustment.

Adjustment Procedures:

1. Set the DISPLAY switch/rear panel to MENU while pushing up the MENU SELECT switch to ENTER.
2. Set the menu as follows and adjust the frequency using the MENU SELECT knob/switch.

MENU : System config
PAGE : Y/Chroma (S2)
ITEM : SC FREQ

Specifications: 3,579,545 $\pm$ 10 Hz (for NTSC)
4,433,168 $\pm$ 5 Hz (for PAL)

File Store:

Execute the OHB file store. Throw the MENU SELECT switch to ENTER to execute.

MENU : Trimming File
PAGE : OHB File (T2)
ITEM : File Store

4-3. VA Gain Adjustment

Setting of Sensitivity and Standard Color Temperature:

- Use the reflective chart (reflection ratio:89.9%) in this adjustment, if possible.
- If a pattern box is used, it should be well-maintained.
- Set the luminous intensity of the chart to 2000 lx and the color temperature to 3200 K.
- This adjustment shall be performed at F7.0 or more.

Note:

- Never change the setting of the following trimmer capacitors. These capacitors are extremely difficult to adjust in the field.

VA-163 board : $\odot$ CT200, $\odot$ CT300, $\odot$ CT400

Equipment : Oscilloscope, Waveform monitor

Object : Gray scale chart

Preparations:

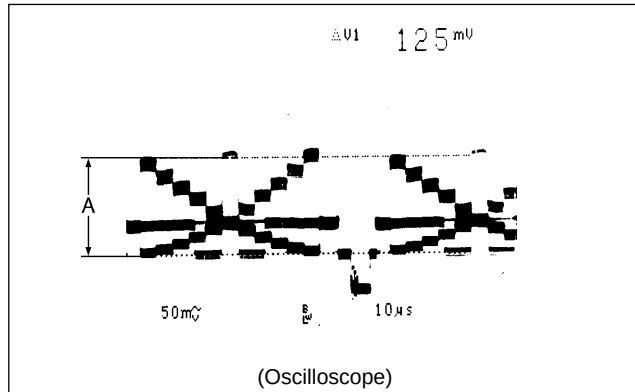
- MASTER GAIN button/MSU operation panel → 0 dB
- Extend the VA-163 board with the EX-464 extension board.
- S650 (MONITOR SELECT)/IF-538 panel → VBS

Adjustment Procedures:

1. Execute the level auto setup.
LEVEL button/MSU operation panel → ON (Lights)
START/BREAK button/MSU operation panel → ON (Lights)
2. TEST 2 button/MSU operation panel → ON (Lights)
3. Adjust the auto white balance.
WHITE button/MSU operation panel → ON (Lights)
4. TEST 2 button/MSU operation panel → OFF (Goes out)
5. KNEE OFF button/MSU operation panel → OFF (Lights)
6. Close the lens iris.
7. Adjust the auto black balance.
BLACK button/MSU operation panel → ON (Lights)
8. Confirm that the black level is 3 IRE for NTSC and 21 mV for PAL at the MONITOR connector.
If the black level is out of specs, carry out "4-6. Master Black Adjustment".

9. **Test Point** : TP72 (GND:TP71)/extension board
(extending VA-163)

Iris of the lens: A = 125 mV (at F7.0 or more)



10. S650 (MONITOR SELECT)/IF-538 panel → VF

G button/rear panel → ON

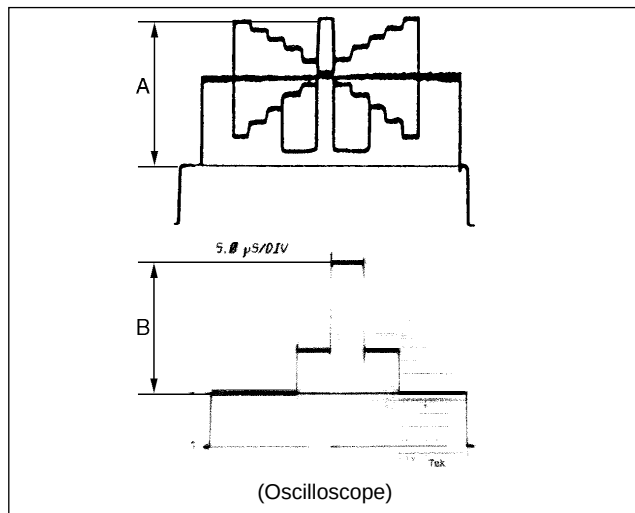
11. Adjust the VA gain for G.

Test Point : MONITOR connector

Adjustment Point : ●RV300 (G GAIN)/VA-163 panel

Specifications : The levels A and B are shall be equal when the TEST 2 button/MSU operation panel is turned on and off.

A = B



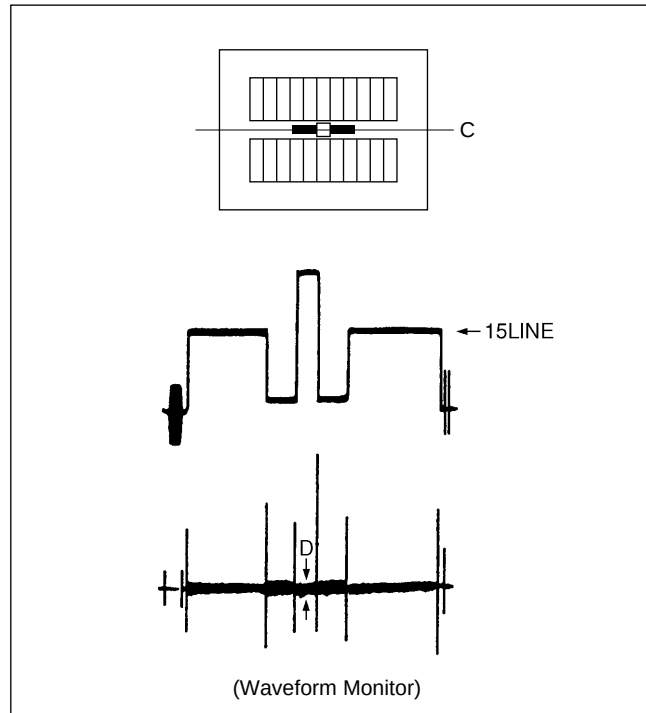
12. Test 2 button/MSU operation panel → OFF
13. Select the 15 lines in the center of monitor screen C by using the 15 LINE SELECT on the waveform monitor.
14. Put the waveform monitor into the CHROMA mode.
15. S650 (MONITOR SELECT)/IF-538 panel → VBS

16. **Test Point** : MONITOR connector

Adjustment Point : ●RV200 (R GAIN)/VA-163 panel

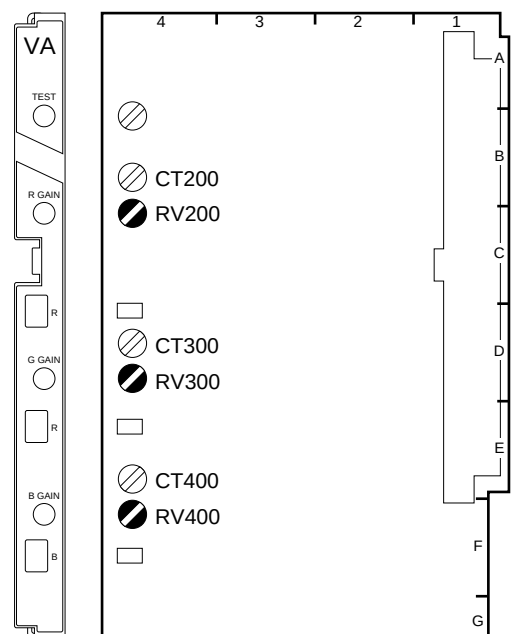
●RV400 (B GAIN)/VA-163 panel

Specifications : Carrier leakage D = Minimum



Resetting after Adjustment:

- S650/IF-538 panel → VBS
- G button/rear panel → OFF



VA-163 BOARD (A SIDE)

4-4. Black Shading Adjustment

Notes:

- The compensation data obtained by the black shading adjustment is not stored in the OHB File. Therefore, when the OHB is replaced or a new OHB is installed, be sure to perform this adjustment.
- If the shading adjustment is not completed, perform the adjustment again following the message displayed on the viewfinder or MSU.
If the re-adjustment still is not completed, consult Sony service representative.

Preparations:

- Connect the waveform monitor to the MONITOR connector.
- S650 (MONITOR SELECT)/IF-538 panel → VBS

Test Point : MONITOR connector

Iris of the lens : CLOSE

Adjustment Procedures:

1. Set the DISPLAY switch/rear panel to MENU while pushing up the MENU SELECT switch to ENTER.
2. Set the menu as follows and adjust the auto black shading. Throw the MENU SELECT switch to ENTER to execute.
MENU : Maintenance
PAGE : Auto Setup (M4)
ITEM : Black Shading
3. Confirm the "OK" is displayed on the viewfinder or MSU. If the error message is displayed, perform the adjustment again following this message.

Message and its meaning

BLACK:OK : Adjustment correctly completed.

LEVEL TOO HIGH : Lens closing does not operate fully, and so on.

TIME LIMIT : Black shading adjustment could not be completed within the specified number of attempts.

OVER FLOW : The difference between the reference value and the current value is too great, and exceeds adjustment range. Adjustment is then not completed.

4. Confirm the carrier level satisfies the specification on the waveform monitor.

Specifications: Less than 2 IRE (for NTSC)

Less than 14 mV (for PAL)

• Manual Black Shading Adjustment (For reference)

Note:

- Perform this adjustment only when “4-4. Black Shading Adjustment” is not completed.

Equipment : Waveform monitor

Preparations:

- Connect the waveform monitor to the MONITOR connector.
- S650 (MONITOR SELECT)/IF-538 panel → VF
- MASTER GAIN button/MSU operation panel → 18 dB

Test Point : MONITOR connector

Iris of the lens : CLOSE

Adjustment Procedures:

1. Set the waveform monitor as follows.
 - LUM mode
 - VOLTFULL SCALE range → 0.5
2. G button/rear panel → ON
3. Set the black level to 3 IRE for NTSC and 21 mV for PAL with the MASTER BLACK control/MSU operation panel.
4. If the shading is monitored, proceed as follows to make the waveform flat.

MSU menu operation:

- MAINTENANCE button → ON (Lights)
- Touch panel operation

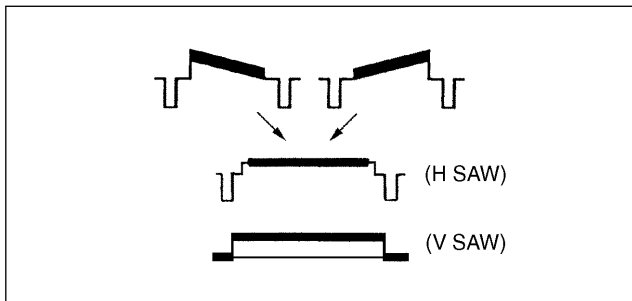
Adjusting → Black Shading → G

Adjustment items: H SAW, V SAW

5. G button/rear panel → OFF
R button/rear panel → ON
Adjust the R-ch black shading in the same way.
6. R button/rear panel → OFF
B button/rear panel → ON
Adjust the B-ch black shading in the same way.

Resetting after Adjustment:

- MASTER GAIN button/MSU operation panel → 0 dB
- S650/IF-538 panel → VBS
- R/G/B button/rear panel → OFF



4-5. White Shading Adjustment

Note:

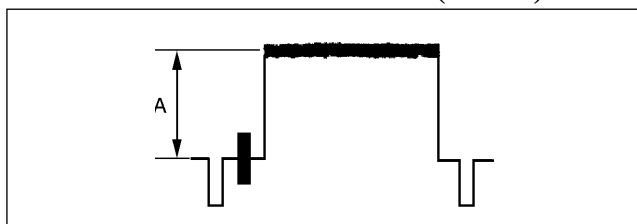
- This adjustment could not be correctly performed if the uneven white patten is used, luminance is not correct, or lens iris and lens zoom are not in good conditions.

Equipment : Waveform monitor
Test Point : MONITOR connector
Object : Full white pattern

Preparations:

- Connect the waveform monitor to the MONITOR connector.
- S650 (MONITOR SELECT)/IF-538 panel → VBS
- KNEE OFF button/MSU operation panel → OFF (Lights)
- Shoot the fully occupied white area of the pattern box in the full underscanned monitor frame adjusting the zoom control.

Iris of the lens : $A=80 \pm 5$ IRE (for NTSC)
 $A = 560 \pm 35$ mV (for PAL)



Adjustment Procedures:

1. Adjust the auto white balance.
WHITE button/MSU operation panel → ON (Lights)
2. Set the waveform monitor as follows.
 - LUM mode
 - VOLTFULL SCALE range → 0.5
3. S650 (MONITOR SELECT)/IF-538 panel → VF
G button/rear panel → ON

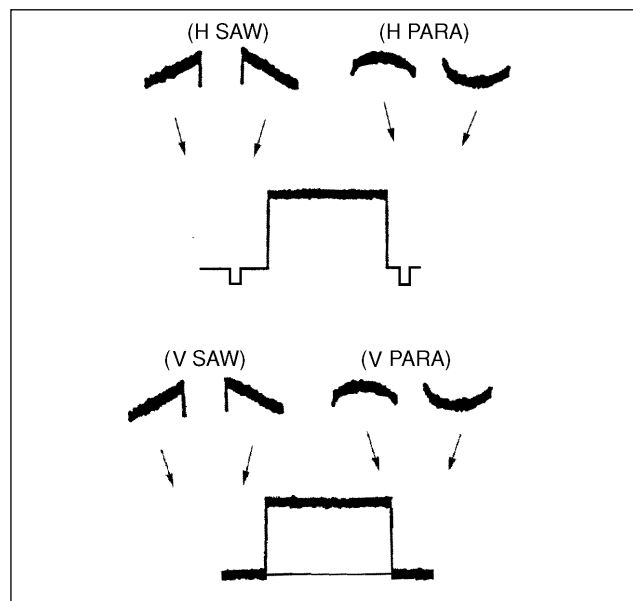
4. If the shading is monitored, proceed as follows to make the waveform flat.

• MAINTENANCE button → ON (Lights)

• Touch panel operation

Adjusting → White Shading → G

Adjustment items: H SAW, H PARA, V SAW, V PARA



5. G button/rear panel → OFF
R button/rear panel → ON
Adjust the R-ch white shading in the same way.
6. R button/rear panel → OFF
B button/rear panel → ON
Adjust the B-ch white shading in the same way.

File Store:

1. Set the DISPLAY switch/rear panel to MENU while pushing up the MENU SELECT switch to ENTER.
2. Execute the file store. Throw the MENU SELECT switch to ENTER to execute.

Menu setting:

MENU : Reference File
 PAGE : Reference File (R1)
 ITEM : File Store

Resetting after Adjustment:

- S650/IF-538 panel → VBS
- R/G/B button/rear panel → OFF

4-6. Master Black Adjustment

Equipment : Waveform monitor
Test Point : MONITOR connector

Preparations:

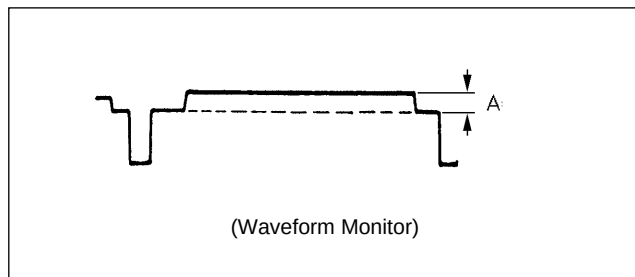
- Connect the waveform monitor to the MONITOR connector.
- S650 (MONITOR SELECT)/IF-538 panel → VF
- G button/rear panel → ON

Iris of the lens : CLOSE

Adjustment Procedures:

1. Set the waveform monitor as follows
 - LUM mode
2. **Adjustment Point** : MASTER BLACK control/MSU operation panel

Specifications : $A = 3 \pm 1$ IRE (for NTSC)
 $A = 21 \pm 7$ mV (for PAL)



3. Adjust the auto black balance.
BLACK button/MSU operation panel → ON (Lights)

File Store:

1. Set the DISPLAY switch/rear panel to MENU while pushing up the MENU SELECT switch to ENTER.
2. Execute the file store. Throw the MENU SELECT switch to ENTER to execute.

Menu setting:

MENU : Reference File
PAGE : Reference File (R1)
ITEM : File Store

Resetting after Adjustment:

- S650 (MONITOR SELECT)/IF-538 panel → VBS
- G button/rear panel → OFF

4-7. Gamma Correction Adjustment

Equipment : Waveform monitor, Vectorscope
Test Point : MONITOR connector
Object : Grayscale chart

Preparations:

- Connect the waveform monitor to the MONITOR connector.
- Connect the waveform monitor to the PIX OUT terminal of the vectorscope.
- KNEE OFF button/MSU operation panel → OFF (Lights) → ON (Stays out)
- GAMMA OFF button/MSU operation panel → ON (Stays out)
- S650 (MONITOR SELECT)/IF-538 panel → VBS
- Shoot the grayscale chart so that the chart frame is aligned with the underscanned monitor frame.

Iris of the lens : $A = 100 \pm 2$ IRE (for NTSC)
 $A = 700 \pm 14$ mV (for PAL)

Adjustment Procedures:

1. S650 (MONITOR SELECT)/IF-538 panel → VF
G button/rear panel → ON
2. Adjust the master gamma. Proceed as follows.

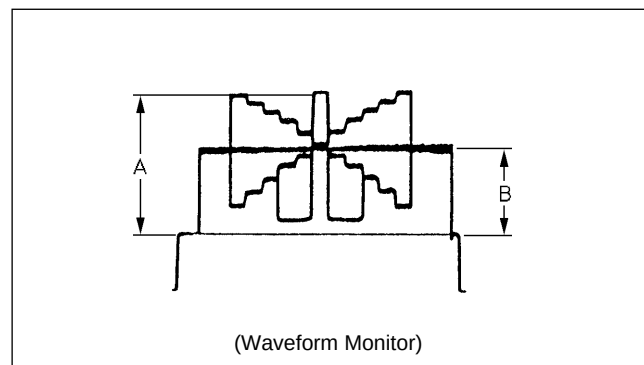
MSU menu operation:

- PAINT button → ON (Lights)
- Touch panel operation

→ (Page 2/3) →

Adjustment item : Master

Specifications : $B = 55.5 \pm 2.0$ IRE (for NTSC)
 $B = 420 \pm 14$ mV (for PAL)



3. Close the lens iris.
4. TEST 1 button/MSU operation panel → ON (Lights)
S650 (MONITOR SELECT)/IF-538 panel → VBS
5. Adjust the auto white balance.
WHITE button/MSU operation panel → ON (Lights)

6. Adjust the R gamma. Proceed as follows.

MSU menu operation:

- PAINT button → ON (Lights)
- Touch panel operation

 → (Page 2/3) → **Gamma**

Adjustment item : R

Specifications : Center the beam spot on the vectorscope.

7. Adjust the B gamma. Proceed as follows.

MSU menu operation:

- PAINT button → ON (Lights)
- Touch panel operation

 → (Page 2/3) → **Gamma**

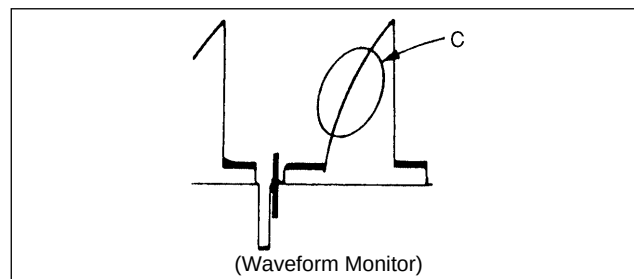
Adjustment item : B

Specifications : Center the beam spot on the vectorscope.

8. Repeat the steps 6 and 7 alternately, until the beam spot is minimized on the vectorscope.

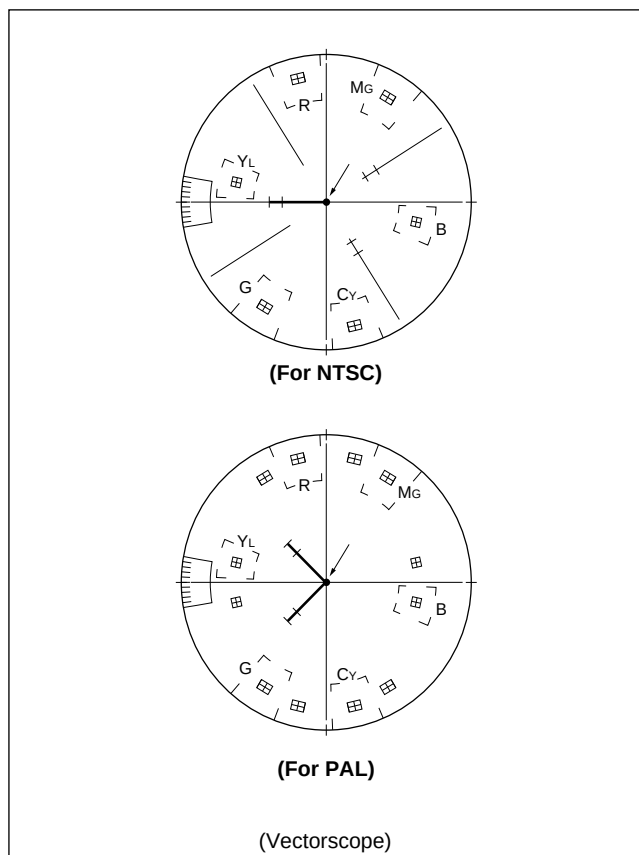
9. Confirm that the carrier leakage does not observed at portion C on the waveform monitor.

Specifications : C = Minimum



Resetting after Adjustment:

- TEST 1 button/MSU operation panel → OFF (Goes out)
- G button/rear panel → ON



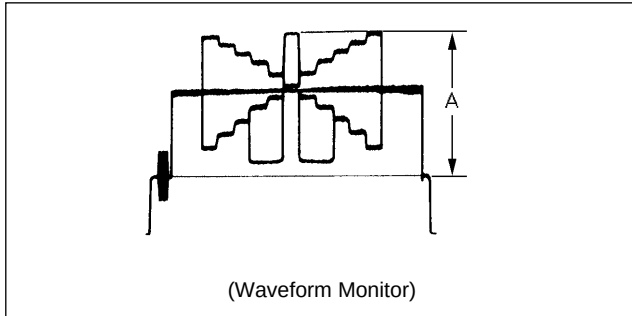
4-8. Flare Adjustment

Equipment : Waveform monitor
Test Point : MONITOR connector
Object : Grayscale chart

Preparations:

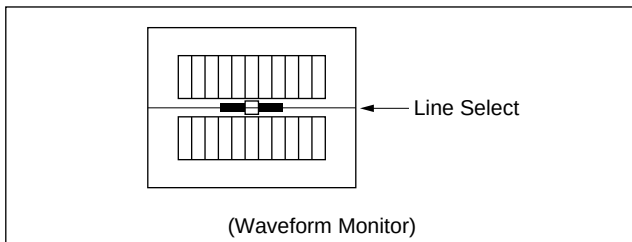
- Connect the waveform monitor to the MONITOR connector.
- KNEE OFF button/MSU operation panel → OFF (Lights)
- S650 (MONITOR SELECT)/IF-538 panel → VBS
- Shoot the grayscale chart so that the chart frame is aligned with the underscanned monitor frame.

Iris of the Lens : A = 100 ± 2 IRE (for NTSC)
 A = 700 ± 14 mV (for PAL)



Adjustment Procedures:

1. Adjust the auto white balance.
 WHITE button/MSU operation panel → ON (Lights)
2. Open the iris control of the lens by two stops against the reference setup (corresponding to the above A).
3. S650 (MONITOR SELECT)/IF-538 panel → VF
 G button/rear panel → ON
4. Select the 15 lines in the center of the monitor screen by using the 15 LINE SELECT on the waveform monitor.



5. MSU menu operation:

- PAINT button → ON (Lights)
- Touch panel operation
 (Page 1/3) → [Flare] → [Flare Off] (Reversed)

Confirm that the level at portion B does not fluctuate even if the flare is turned on/off.

6. If fluctuates, adjust the G flare as follows.

- Touch panel operation
 Turn the flare on. ([Flare Off] is not reversed.)

Adjustment item : G

7. S650 (MONITOR SELECT)/IF-538 panel → VBS

8. Adjust the R flare.

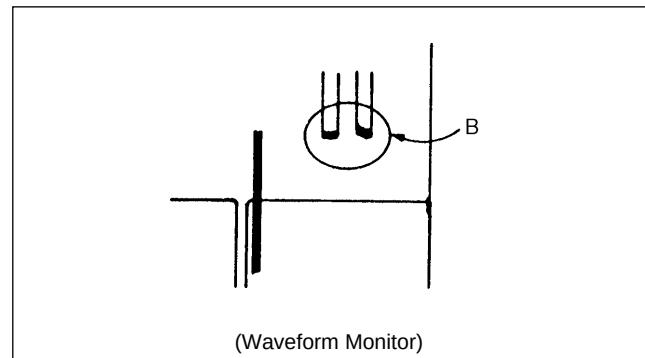
Adjustment item : R

Specifications : Minimize the carrier leakage.

9. Adjust the B flare.

Adjustment item : B

Specifications : Minimize the carrier leakage.



10. Repeat the steps 8 and 9 alternately, until the carrier leakage is minimized.

File Store:

1. Set the DISPLAY switch/rear panel to MENU while pushing up the MENU SELECT switch to ENTER.
2. Execute the file store. Throw the MENU SELECT switch to ENTER to execute.

Menu setting:

MENU : Reference File
 PAGE : Reference File (R1)
 ITEM : File Store

Resetting after Adjustment:

- G button/rear panel → OFF

4-9. Knee and White Clip Adjustment

Note:

Perform this adjustment, if necessary, to suit the customer's preferences.

Equipment : Waveform monitor
Test Point : MONITOR connector

Preparations:

- Connect the waveform monitor to the MONITOR connector.
- S650 (MONITOR SELECT)/IF-538 panel → VBS
- KNEE OFF button/MSU operation panel → ON (goes out)
- MASTER GAIN button/MSU operation panel → 9 dB

Adjustment Procedures:

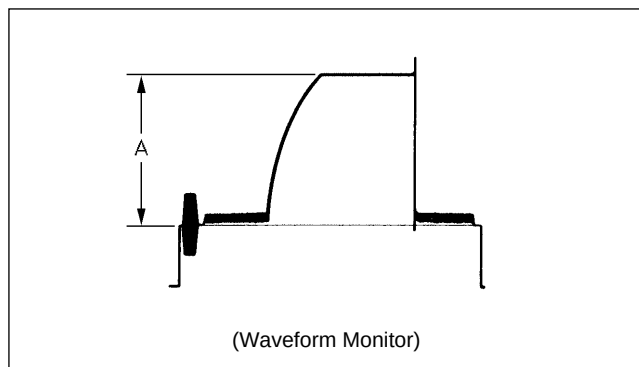
1. Confirm that the black level is 3 IRE for NTSC and 21 mV for PAL.
2. Adjust the auto black balance.
BLACK button/MSU operation panel → ON (Lights)
3. TEST 1 button/MSU operation panel → ON (Lights)
4. Adjust the knee point. Proceed as follows.

MSU menu operation:

- PAINT button → ON (Lights)
- Touch panel operation
 Δ → (Page 2/3) → **White Clip**
→ **White Clip Off** (Reversed)
(Page 2/3) → **Knee Point** → **Knee Max**

Adjustment item : Master

Specifications : A = 98 ± 2 IRE (for NTSC)
A = 686 ± 10 mV (for PAL)



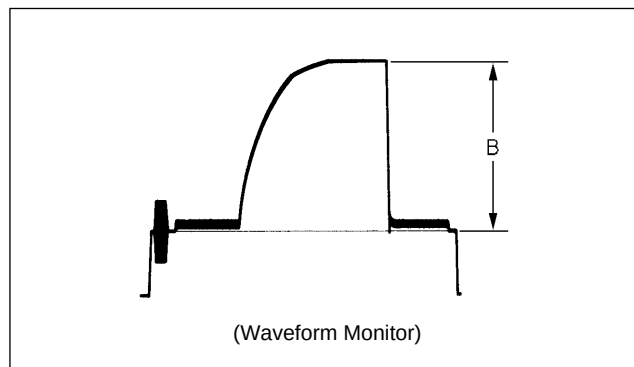
5. Adjust the knee slope. Proceed as follows.

MSU menu operation:

- PAINT button → ON (Lights)
- Touch panel operation
(Page 2/3) → **Knee Point**
Turn off the knee max. (**Knee Max** is not reversed.)
(Page 2/3) → **Knee Slope**

Adjustment item : Master

Specifications : B = 109 ± 2 IRE (for NTSC)
B = 763 ± 10 mV (for PAL)



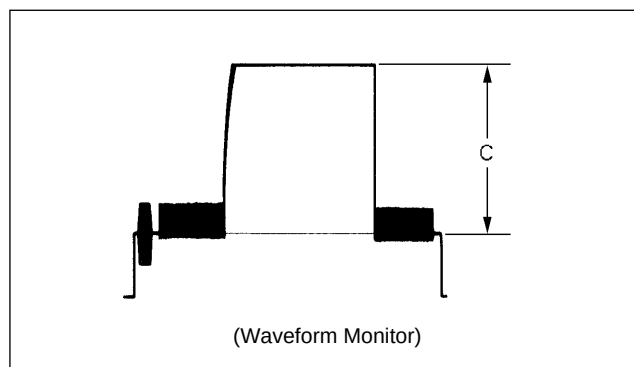
6. MASTER GAIN button/MSU operation panel → 18 dB
7. Adjust the white clip. Proceed as follows.

MSU menu operation:

- PAINT button → ON (Lights)
- Touch panel operation
(Page 2/3) → **White clip**
Turn on the white clip. (**White Clip Off** is not reversed.)

Adjustment item : Master

Specifications : C = 109 ± 2 IRE (for NTSC)
C = 750 ± 10 mV (for PAL)



Resetting after Adjustment:

- TEST 1 button/MSU operation panel → OFF (Goes out)
- MASTER GAIN button/MSU operation panel → 0 dB

Note:

The values used in the above adjustments are under the conditions that the white clip level is set to 109 IRE (for NTSC) or 763 mV (for PAL).

When the white clip level is set to other value than 109 IRE or 763 mV, use the following table to set the levels of the knee point and knee slope.

	White Clip Level (Unit: IRE/mV)			
	109/763	107/749	105/735	103/721
Knee point	98/686	98/686	96/672	96/672
Knee slope	109/763	109/763	107/750	107/750
White clip	109/763	107/749	105/735	103/721

4-10. Crispening Adjustment

Note:

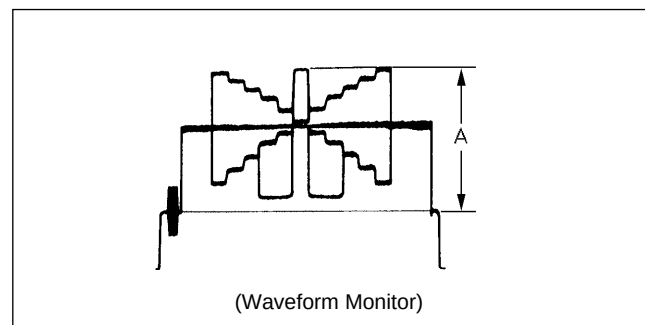
Perform this adjustment, if necessary, to suit the customer's preferences.

Equipment : Waveform monitor
Test Point : MONITOR connector
Object : Grayscale chart

Preparations:

- Connect the waveform monitor to the MONITOR connector.
- DETAIL OFF button/MSU operation panel → ON (goes out)
- S650 (MONITOR SELECT)/IF-538 panel → VBS
- Shoot the grayscale chart so that the chart frame is aligned with the underscanned monitor frame.

Iris of the lens : A = 90 ± 2 IRE (for NTSC)
A = 630 ± 14 mV (for PAL)



Adjustment Procedures:

1. Adjust the auto white balance.
WHITE button/MSU operation panel → ON (Lights)
2. Adjust the crispening. Proceed as follows.

MSU menu operation:

- PAINT button → ON (Lights)
- Touch panel operation

(Page 1/3) → Detail → Detail1

Adjustment item : Crispening

Specifications : Set the numeral value to -99 once, and turn slowly for increment until the noise at the black level of the waveform is just decreased, or an appropriate crispening level is obtained.

4-11. Level Dependent Adjustment

Note:

Perform this adjustment, if necessary, to suit the customer's preferences.

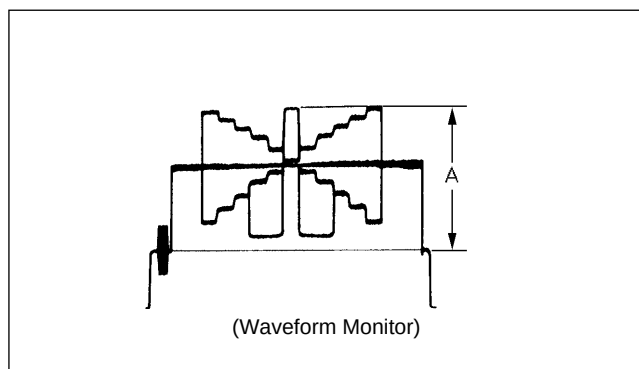
Equipment : Waveform monitor
Test Point : MONITOR connector
Object : Grayscale chart

Preparations:

- Connect the waveform monitor to the MONITOR connector.
- Shoot the grayscale chart so that the chart frame is aligned with the underscanned monitor frame.
- S650 (MONITOR SELECT)/IF-538 panel → VBS
- DETAIL OFF button/MSU operation panel
→ ON (Goes out)
- LVL DEP OFF button/MSU operation panel
→ ON (Goes out)

Adjustment Procedures:

1. **Iris of the lens:** $A = 90 \pm 2$ IRE (for NTSC)
 $A = 630 \pm 14$ mV (for PAL)



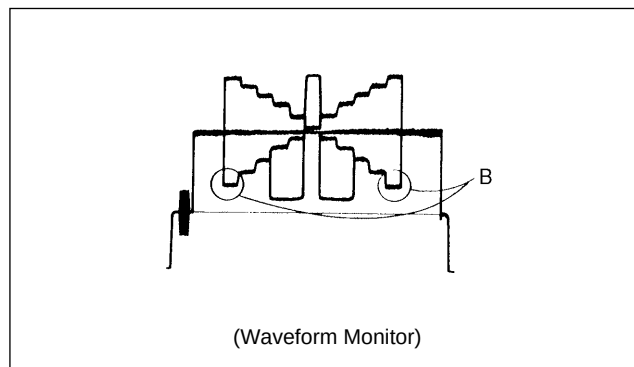
2. MSU menu operation:

- PAINT button → ON (Lights)
- Touch panel operation

(Page 1/3) → Detail → Detail1

Adjustment item : Level Dep

Specifications : Set the numeral value to -99 once, and turn slowly for increment until spikes at portions B are just decreased.



Note:

- After adjustment is complete, be sure to perform “4-13. H/V Ratio Adjustment” and “4-14. Detail Level Adjustment.”

4-12. Detail Frequency Adjustment

Note:

Perform this adjustment, if necessary, to suit the customer's preferences.

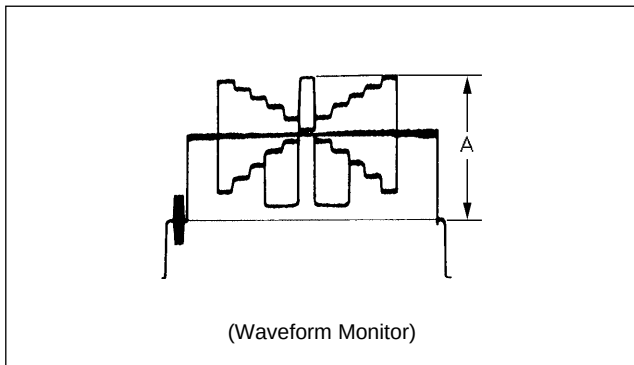
Equipment : Waveform monitor
Test Point : MONITOR connector
Object : Grayscale chart

Preparations:

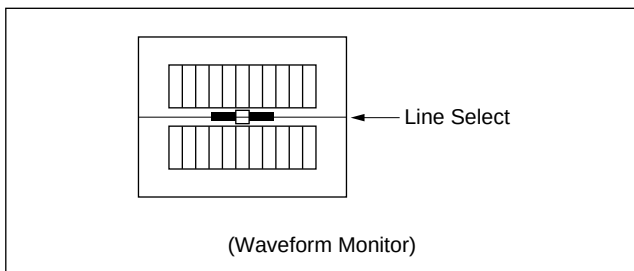
- Connect the waveform monitor to the MONITOR connector.
- Shoot the grayscale chart so that the chart frame is aligned with the underscanned monitor frame.
- S650 (MONITOR SELECT)/IF-538 panel → VBS
- KNEE OFF button/MSU operation panel → OFF (Lights)
- DETAIL OFF button/MSU operation panel → ON (Goes out)

Adjustment Procedures:

1. **Iris of the lens:** $A = 90 \pm 2$ IRE (for NTSC)
 $A = 630 \pm 14$ mV (for PAL)



2. Adjust the auto white balance.
 WHITE button/MSU operation panel → ON (Lights)
3. Make a selection of line at the center white portion of the grayscale chart.



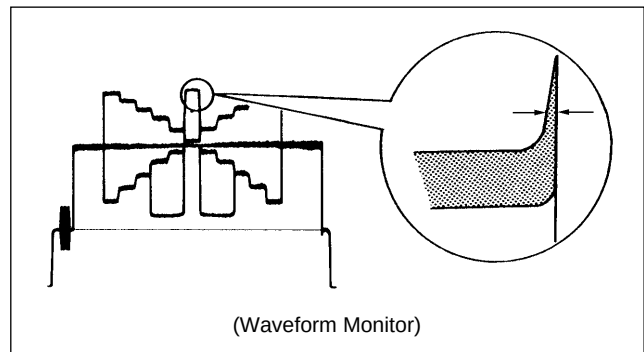
4. MSU menu operation:

- PAINT button → ON (Lights)
- Touch panel operation

(Page 1/3) → **Detail** → **Detail2**

Adjustment item : Frequency

Specifications : Adjust the edge width at each end of the center white portion for the desired width.



Note:

- After adjustment is complete, be sure to perform “4-13. H/V Ratio Adjustment” and “4-14. Detail Level Adjustment.”

4-13. H/V Ratio Adjustment

Note:

Perform this adjustment, if necessary, to suit the customer's preferences.

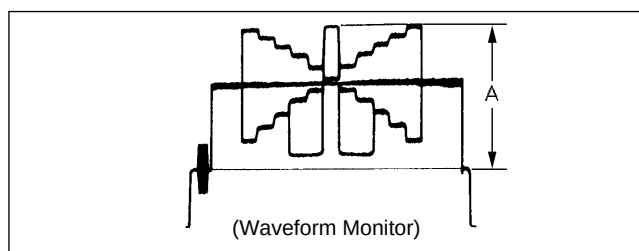
Equipment : Waveform monitor
Test Point : MONITOR connector
Object : Grayscale chart

Preparations:

- Connect the waveform monitor to the MONITOR connector.
- Shoot the grayscale chart so that the chart frame is aligned with the underscanned monitor frame.
- S650 (MONITOR SELECT)/IF-538 panel → VBS
- KNEE OFF button/MSU operation panel → OFF (Lights)
- DETAIL OFF button/MSU operation panel → ON (Goes out)

Adjustment Procedures:

1. **Iris of the lens** : $A = 90 \pm 2$ IRE (for NTSC)
 $A = 630 \pm 14$ mV (for PAL)



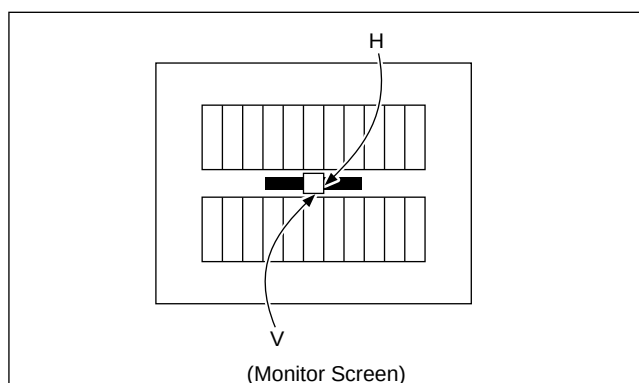
2. **MSU menu operation:**

- PAINT button → ON (Lights)
- Touch panel operation

(Page 1/3) → **Detail** → **Detail2**

Adjustment item : H/V Ratio

Specifications : The ratio between the H and V detail amounts (white) to be added shall be 1 : 1.



4-14. Detail Level Adjustment

Note:

Perform this adjustment, if necessary, to suit the customer's preferences.

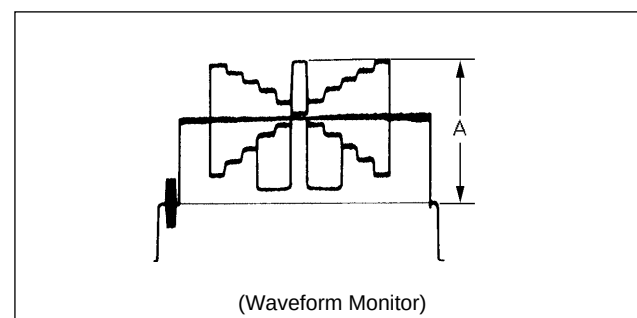
Equipment : Waveform monitor
Test Point : MONITOR connector
Object : Grayscale chart

Preparations:

- Connect the waveform monitor to the MONITOR connector.
- Shoot the grayscale chart so that the chart frame is aligned with the underscanned monitor frame.
- S650 (MONITOR SELECT)/IF-538 panel → VBS
- DETAIL OFF button/MSU operation panel → ON (Goes out)

Adjustment Procedures:

1. **Iris of the lens** : $A = 90 \pm 2$ IRE (for NTSC)
 $A = 630 \pm 14$ mV (for PAL)



2. Adjust the auto white balance.
WHITE button/MSU operation panel → ON (Lights)

3. **MSU menu operation:**

- PAINT button → ON (Lights)

- Touch panel operation

(Page 1/3) → **Detail** → **Detail1**

Adjustment item : Level

Specifications : Adjust the detail signal level to be added to each step in the grayscale chart for the desired level.

4-15. Detail Clip Adjustment

Note:

Perform this adjustment, if necessary, to suit the customer's preferences.

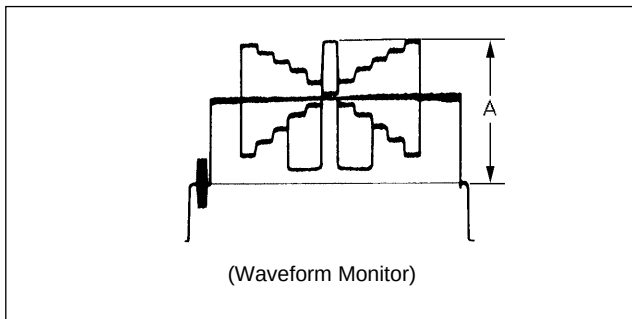
Equipment : Waveform monitor
Test Point : MONITOR connector
Object : Grayscale chart

Preparations:

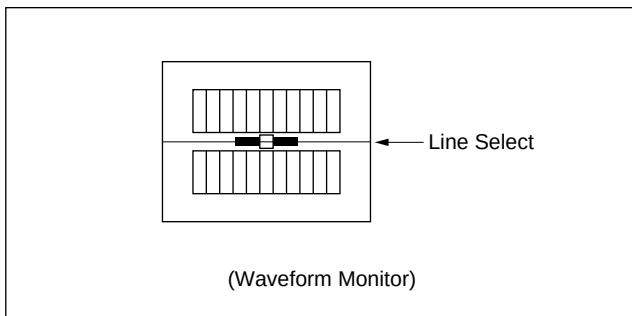
- Connect the waveform monitor to the MONITOR connector.
- Shoot the grayscale chart so that the chart frame is aligned with the underscanned monitor frame.
- S650 (MONITOR SELECT)/IF-538 panel → VBS
- KNEE OFF button/MSU operation panel
→ OFF (Lights)
- DETAIL OFF button/MSU operation panel
→ ON (Goes out)

Adjustment Procedures:

1. **Iris of the lens:** A = 90 ± 2 IRE (for NTSC)
A = 630 ± 14 mV (for PAL)



2. Adjust the auto white balance.
WHITE button/MSU operation panel → ON (Lights)
3. Make a selection of line at the center white portion of the grayscale chart.



4. Adjust the white limiter. Proceed as follows.

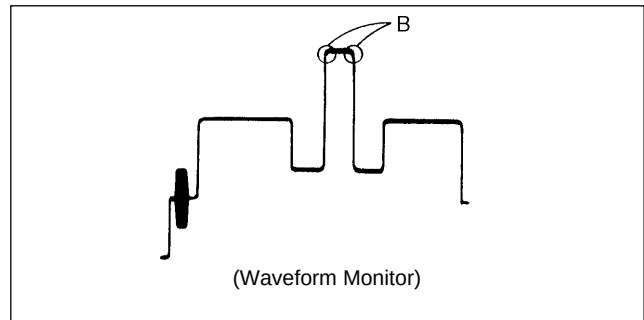
MSU menu operation:

- PAINT button → ON (Lights)
- Touch panel operation

(Page 1/3) → **Detail** → **Detail3**

Adjustment item : W.Limiter

Specifications : Adjust the edges of portions B for the desired clip level.



5. Adjust the black limiter. Proceed as follows.

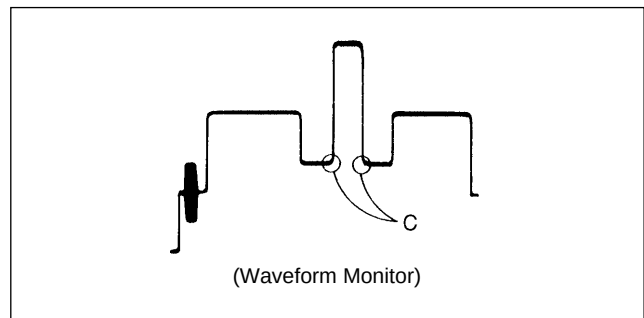
MSU menu operation:

- PAINT button → ON (Lights)
- Touch panel operation

(Page 1/3) → **Detail** → **Detail3**

Adjustment item : B.Limiter

Specifications : Adjust the edges of portions C for the desired clip level.



4-16. Skin Tone Adjustment

Note:

Perform this adjustment, if necessary, to suit the customer's preferences.

Equipment : Color monitor, Viewfinder or Vectorscope

Preparations:

- Connect the vectorscope or color monitor to the PIX 2 OUTPUT connector of CCU.
- Shoot a person's face.
- S650 (MONITOR SELECT)/IF-538 panel → VBS
- SKIN DETAIL button/MSU operation panel → ON (Lights)
- DETAIL GATE button/MSU operation panel → ON (Lights)

Adjustment Procedures:

1. Set the DISPLAY switch/rear panel to MENU while pushing up the MENU SELECT switch to ENTER.
2. Set the menu as follows.
MENU : Paint
PAGE : Skin Detail (P4)
ITEM : Gate → On
3. Adjust the skin detail according to customer's preferences.

MSU menu operation:

- PAINT button → ON (Lights)
- Touch panel operation
(Page 1/3) → Skin Detail

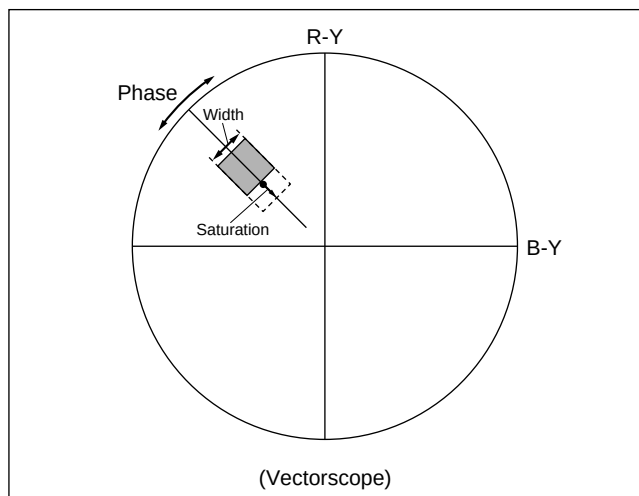
Adjustment items : Level, Phase, Saturation, Width

Level : Detail level within the skin gate

Phase : Hue

Saturation : Component in the saturation direction

Width : Component in the hue direction



Resetting after Adjustment:

- DETAIL GATE button/MSU operation panel
→ OFF (Goes out)
- Set the menu as follows.
MENU : Paint
PAGE : Skin Detail (P4)
ITEM : Gate → Off

4-17. Zebra Adjustment

Note:

Perform this adjustment, if necessary, to suit the customer's preferences.

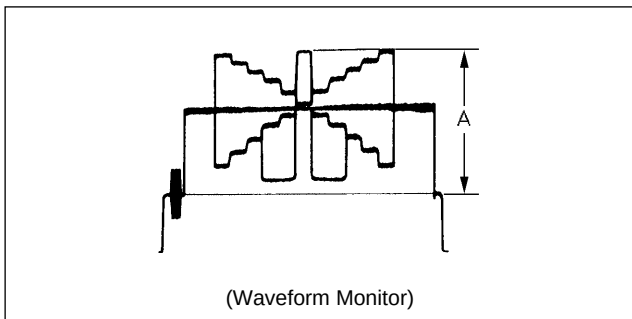
Equipment : Waveform monitor
Test Point : MONITOR connector
Object : Grayscale chart

Preparations:

- Connect the waveform monitor to the MONITOR connector.
- KNEE OFF button/MSU operation panel → OFF (Lights)
- S650 (MONITOR SELECT)/IF-538 panel → VBS
- Shoot the grayscale chart so that the chart frame is aligned with the underscanned monitor frame.

Adjustment Procedures:

1. Adjust the auto white balance.
 WHITE button/MSU operation panel → ON (Lights)
2. **Iris of the lens:** A = 100 $\pm$ 2 IRE (for NTSC)
 A = 700 $\pm$ 14 mV (for PAL)

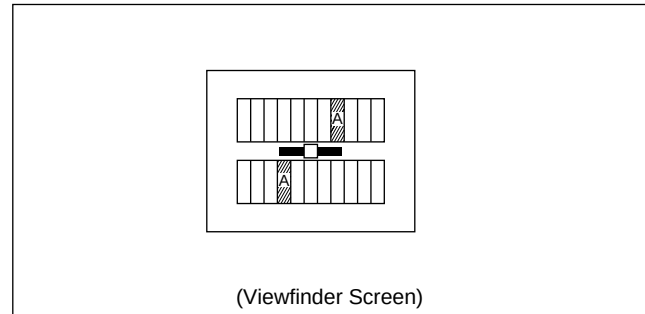


3. Set the DISPLAY switch/rear panel to MENU while pushing up the MENU SELECT switch to ENTER.
4. Set the menu as follows.
 MENU : System config
 PAGE : Pre knee/Zebra (S4)
 ITEM : Z.Disp → 1

5. Adjust the zebra 1 using the MENU SELECT knob/switch. Proceed as follows.

ITEM : Zebra1 [LEVEL]

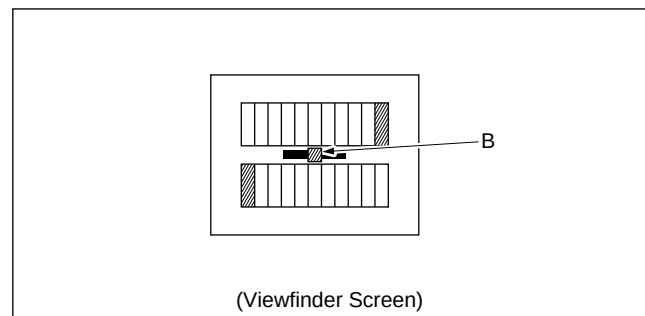
Specifications: Adjust that the stripes appear at the center of the portions A on the viewfinder screen.
 (The area of the stripes can be changed by
 ITEM: Zebra 1 [RANGE].)



6. Set the menu as follows.
 MENU : System config
 PAGE : Pre knee/Zebra (S4)
 ITEM : Z.Disp → 2
7. Adjust the zebra 2 using the MENU SELECT knob/switch. Proceed as follows.

ITEM : Zebra2 [LEVEL]

Specifications: Adjust that the stripes appear at the center of the portions B on the viewfinder screen.



4-18. Auto Iris Adjustment

Note:

Perform this adjustment, if necessary, to suit the customer's preferences.

Equipment : Waveform monitor
Test Point : MONITOR connector
Object : Grayscale chart

Preparations:

- IRIS AUTO button/MSU operation panel → ON (Lights)
- KNEE OFF button/MSU operation panel → OFF (Lights)
- Connect the waveform monitor to the MONITOR connector.
- S650 (MONITOR SELECT)/IF-538 panel → VBS
- Shoot the grayscale chart so that the chart frame is aligned with the underscanned monitor frame.

Adjustment Procedures:

1. Adjust the auto white balance.
WHITE button/MSU operation panel → ON (Lights)
2. Set the DISPLAY switch/rear panel to MENU while pushing up the MENU SELECT switch to ENTER.
3. Set the menu as follows and adjust the APL ratio using the MENU SELECT knob/switch.

MENU : Operation
 PAGE : Auto Iris/Auto Knee (?6)
 ITEM : APL Ratio

Specifications : Adjust the operation mode depending on the application.

Note : Automatic iris operation mode setting can be done from the average level to peak-to-peak level of the video signal.
 99 → average level
 -99 → peak-to-peak level

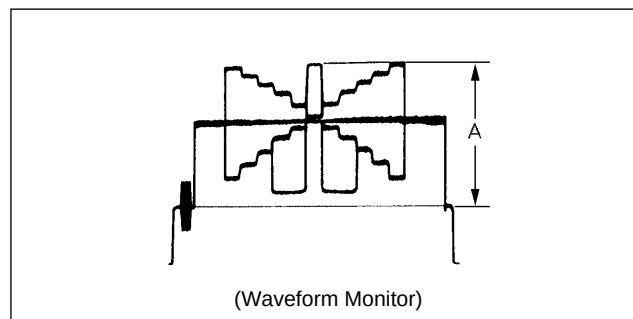
4. Set the menu as follows.

MENU : Operation
 PAGE : Auto Iris/Auto Knee (?6)
 ITEM : Iris Override→Off

5. Adjust the auto iris level using MENU SELECT knob/switch.

MENU : System config
 PAGE : Iris (S6)
 ITEM : Level

Specifications: A = 100 ± 2 IRE (for NTSC)
 A = 700 ± 14 mV (for PAL)



4-19. Settings After Finishing Adjustment

DETAIL OFF button/MSU operation panel → ON (Goes out)
GAMMA OFF button/MSU operation panel → ON (Goes out)
KNEE OFF button/MSU operation panel → ON (Goes out)

4-20. File Store

Be sure to execute the file store after any one of the adjustments of Sections 4-2 through 4-18 is performed.

Procedures:

1. Set the DISPLAY switch/rear panel to MENU while pushing up the MENU SELECT switch to ENTER.
2. Execute the reference file store. Throw the MENU SELECT switch to ENTER to execute.

Menu Setting:

MENU : Reference File
PAGE : Reference File (R1)
ITEM : File Store

3. Execute the trimming file store. Throw the MENU SELECT switch to ENTER to execute.

Menu Setting:

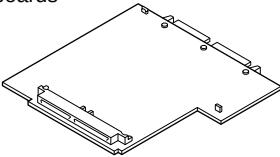
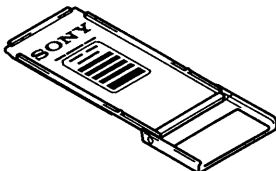
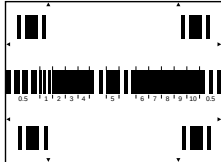
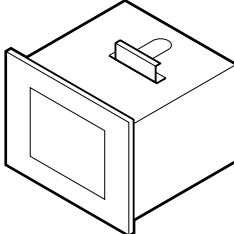
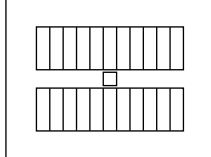
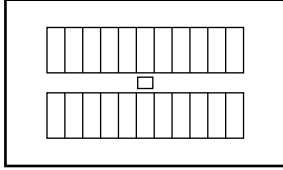
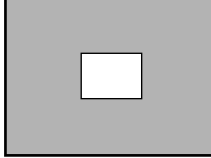
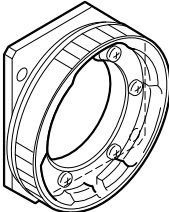
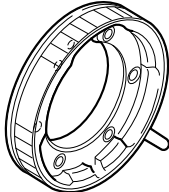
MENU : Trimming File
PAGE : Trimming File (T1)
ITEM : File Store

Section 5

Overall Electrical Alignment

5-1. Preparation

5-1-1. Equipment Required

Extension board EX-464 Sony P/N: J-6395-040-A For BVP-500/500P plug-in boards 	Extension board BKP-7900 (Option) For CCU-700/700P plug-in boards 
Multiburst Chart Sony P/N: J-6026-110-A 	Pattern box PTB-500 Sony P/N: J-6029-140-B • Light source for test chart Power supply AC90 to 240V 
Grayscale Chart Sony P/N: J-6026-130-B 	Grayscale Chart (16:9) Sony P/N: J-6394-080-A 
White Window Chart Make a square hole at the center of a black sheet of paper. 	Portable Lens Attachment Sony P/N: J-6395-080-A For OHB-400 series 
Portable Lens Attachment Sony P/N: J-6395-090-A For OHB-500/500WS series 	

Measuring Equipment

- DC variable power supply
- Frequency counter
Advantest TR5821AK or equivalent
- Spectrum analyzer
- Audio analyzer
Tektronix AA501A (OP, 02) or equivalent
- Audio generator
Tektronix SG-5010 or equivalent
- Oscilloscope
Tektronix 2465 or equivalent
- Waveform monitor/Vectorscope
Tektronix 1750 or equivalent (for NTSC)
Tektronix 1751 or equivalent (for PAL)
- Digital voltmeter
Advantest TR6845 or equivalent
- Video signal generator
Tektronix 1410 or equivalent (for NTSC)
Tektronix 1411 or equivalent (for PAL)
- Color monitor
Sony BVM-1911/2811 or equivalent (for NTSC)
Sony BVM-2011P/3011P or equivalent (for PAL)

Peripheral Equipment

- CCD unit : OHB-400/500/500WS series
- Camera control unit : CCU-700/700P/700A/700AP
- Master setup unit : MSU-700
- TRIAX cable (Standard length: 150 m)

5-1-2. Notes on Adjustment

- All measuring equipment shall be calibrated.
- Also the alignment for the OHB-400/500/500WS (or their PAL version), CCU-700/700P/700A/700AP, and MSU-700 shall be completed.
- To connect each equipment, refer to Section 5-1-4.
- As for initial settings before beginning adjustment, refer to Section 5-1-5.
- Be sure to turn off the power switch on the power assembly of the camera before disconnecting the printed circuit boards.

Note

Allow for about ten seconds until the unit is energized when turning this switch off and then on momentarily.

- About ten-minute warm-up time is allowed before beginning adjustment.
- Use a plastic (or ceramic) core driver to adjust $\odot$ LV, $\odot$ FL, $\odot$ T and so on.
- When using the camera as 16:9 mode together with the OHB-500WS/500WSP, use the specified grayscale chart (J-6394-080-A).
- Paste a black colored velvets (around 3×3 cm) to both sides of the full white portion in the center of the grayscale chart.
(For more details, consult your Sony service representative.)

5-1-3. Description of Setup Menu

A part of adjustments given in this section uses the setup menu. The setup menu consists of the following menus. Besides there is a TOP menu indicating the entire configuration of menu items.

Operation
Paint
Maintenance
Reference File
Triming File
System config

To display all of the menus, switch setting of the AT-95 board is required. And for details on the setup menu, refer to Section 3.

In this manual, describes the setup menu operation as follows.

Title of the selected page (top right corner display)

For reference:

When Paint→Skin Detail is selected:

MENU : Paint
PAGE : Skin Detail (P4)

Displaying Setup Menu

1. Power on the CCU and MSU.
2. Set the internal switches of the AT-95 board as follows.
S1-1 → ON
S1-2 → OFF
S1-3 → ON
S1-4 → OFF
3. DISPLAY switch/rear panel→OFF
4. POWER switch/camera power assembly→ON
5. Set the DISPLAY switch/rear panel to MENU (from OFF) while pushing up the MENU SELECT switch to ENTER. (TOP menu will be displayed.)

Note

If the power switch is turned off once, perform the above operations again to display the setup menu (steps 3 to 5).

How to change the setting values

To enter or cancel the setting value of items, which can be changed by turning the MENU SELECT knob, proceed as follows.

To enter the setting value;

Press the MENU SELECT switch to ENTER.

To cancel the setting value;

Before pressing the MENU SELECT switch to ENTER, press it to CANCEL. The original setting is restored.

After pressing the MENU SELECT switch to ENTER, the setting can not be canceled.

File Store

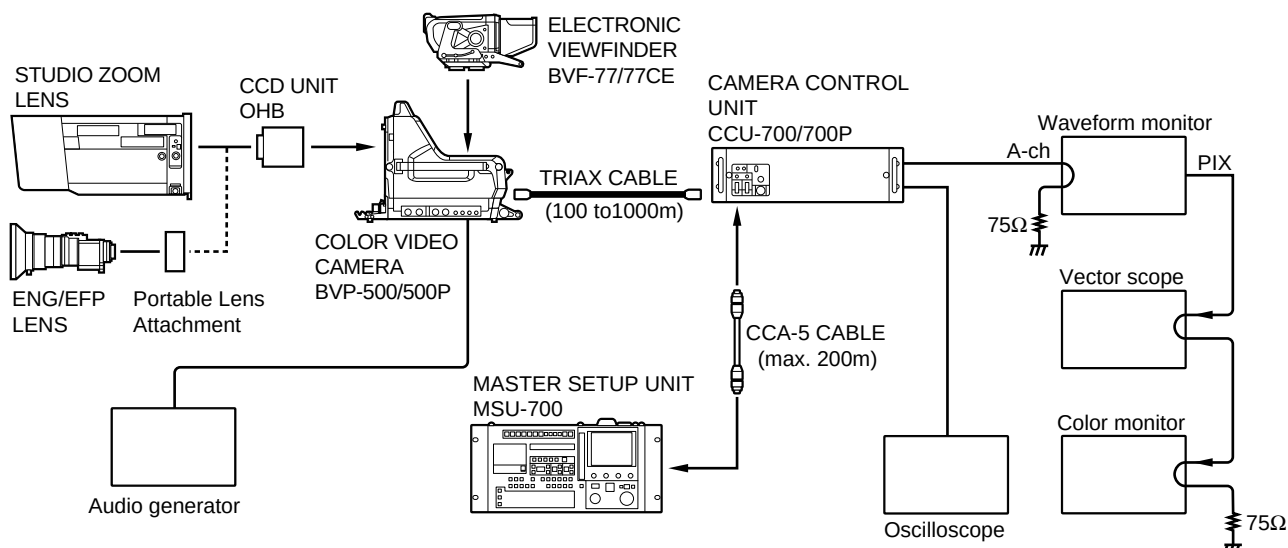
If the adjustments in this section are suspended or the unit is powered off to extend a printed circuit board and so on, be sure to execute the FILE STORE before being powered off.

This section provides instructions to store the setting data on the reference or trimming file in every adjustment item. This intends to prevent the data from being cleared when powered off.

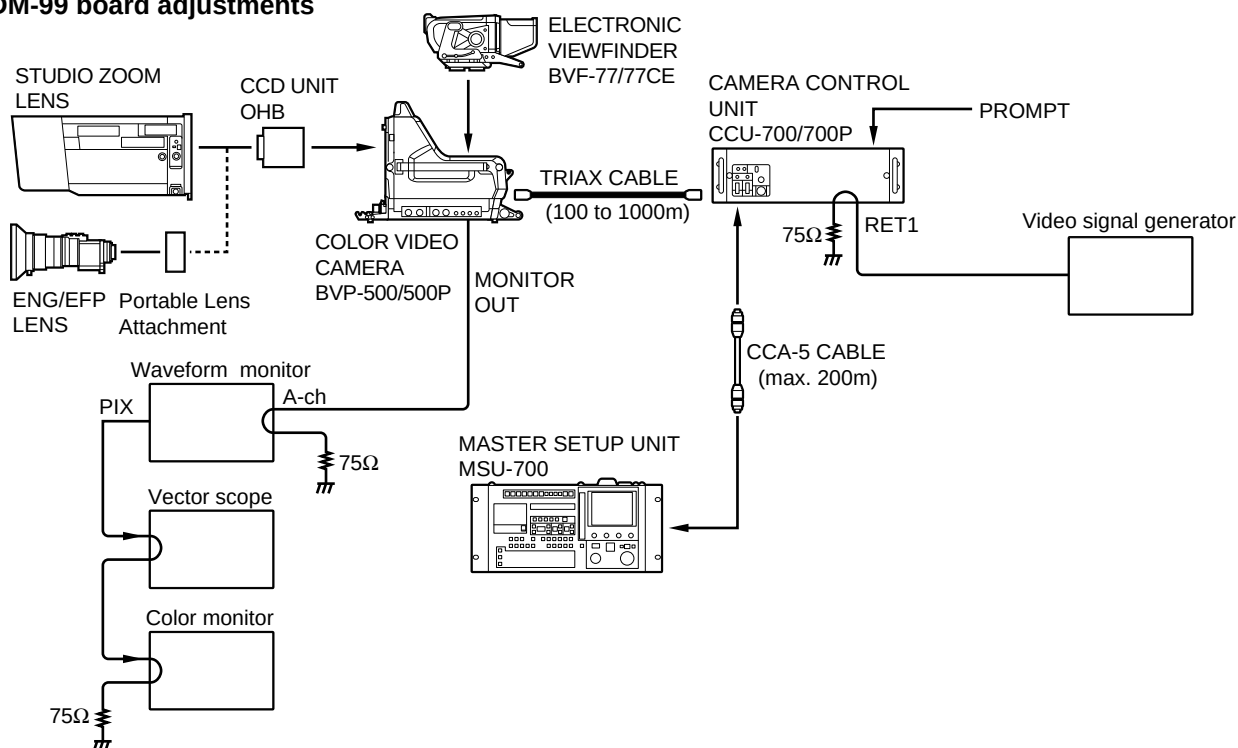
As the data is kept held unless powered off, however, more than one data can be stored at a time. The file store may not be necessarily executed for every adjustment item.

5-1-4. Connection

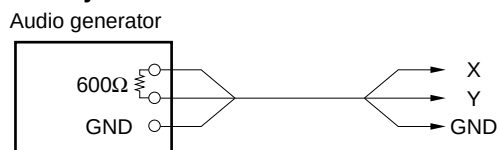
For general adjustments



For DM-99 board adjustments



For audio adjustments



5-1-5. Initial Settings

BVP-500/500P

Note

When switching the following switches from a customer-set position, it is recommended to record the setting state of the customer in the table below.

After adjustment is complete, be sure to return the switches to their customer-set position.

Board	Switch	Initial setting	Customer-set position
AT-95	S1-1	ON	
	S1-2	OFF	
	S1-3	ON	
	S1-4	OFF	
IF-538	S200	RET	
	S650	VBS	
MD-103	S3	PROMPT	
AU-211	SW1	C (CARBON)	
	SW2-1	OFF	
	SW2-2	OFF	
	SW2-3	OFF	
	SW2-4	OFF	
	SW2-5	ON	
	SW2-6	OFF	
	SW2-7	OFF	
	SW2-8	OFF	
	SW3-1	OFF	
	SW3-2	ON	
	SW4	OFF	
	SW5	PHANTOM	
	SW6	MIC1	
AU-215	S200	0 (0 dBu)	
DM-98	S1-1	OFF	
	S1-2	OFF	
	S1-3	OFF	
	S1-4	ON	

When adjusting a camera incorporating the OHB-500WS/WSP, be sure to set the setup menu as follows.

MENU : Operation

PAGE : Wide Screen (?4)

ITEM : 16:9/4:3 MODE→16:9

MSU-700 Operation Panel

- CAM POWER/Signal output select buttons
 - ALL button → OFF (Stays out)
 - CAM PW button → ON (Stays lit)
 - VF PW button → ON (Stays lit)
 - TEST 1 button → OFF (Stays out)
 - TEST 2 button → OFF (Stays out)
 - BARS button → OFF (Stays out)
 - CLOSE button → ON (Stays lit)
- CAM/CCU Function ON/OFF buttons
 - KNEE OFF button → OFF (Stays lit)
 - DETAIL OFF button → OFF (Stays lit)
 - LVL DEP OFF button → OFF (Stays lit)
 - AUTO KNEE button → OFF (Stays out)
 - SKIN DETAIL button → OFF (Stays out)
- Others
 - GAMMA OFF button → ON(Stays out)
 - MASTER GAIN button→ 0 (0 dB)
 - FILTER button (ND) → 1 (Stays lit)
 - FILTER button (CC) → B (Stays lit)
- Menu operation block (Touch panel)
 - PAINT button →ON
 - →(Page 2/3)→ → 

Preset of Compensation Data

When a board was replaced or repaired, preset the compensation data, proceeding as follows. If the data is preset once, be sure to carry out all steps of 5-2 through 5-22. Because presetting clears all adjustment data of video and detail system.

- Execute the reference file clear.
 - Throw the MENU SELECT switch to ENTER to execute.
 - MENU : Reference File
 - PAGE : Reference File (R1)
 - ITEM : Clear File
- Execute the scene file standard.
 - STANDARD button/MSU operation panel→ON

5-2. VCO CONT Frequency Adjustment

Notes:

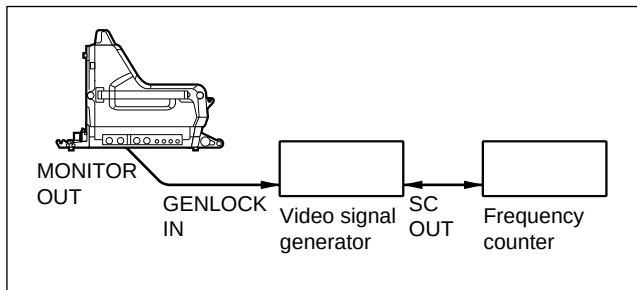
- This adjustment shall be performed only when the CCD unit is installed in the camera incorporating the standalone unit BKP-5910/5910P.
- This adjustment requires longer warm-up time periods (10 to 30 minutes).

Equipment : Frequency counter,
Video signal generator

Test Point : MONITOR connector

Preparation:

- S650 (MONITOR SELECT)/IF-538 panel → VBS



Adjustment Procedures:

1. Set the DISPLAY switch/rear panel to MENU while pushing up the MONITOR SELECT switch to ENTER.
2. Set the menu as follows and adjust the frequency using the MENU SELECT knob/switch.

MENU : System config
PAGE : Y/Chroma (S2)
ITEM : SC FREQ

Specifications : 3,579,545 $\pm$ 10 Hz (for NTSC)
4,433,168 $\pm$ 5 Hz (for PAL)

File Store:

Execute the OHB file store. Throw the MENU SELECT switch to ENTER to execute.

MENU : Trimming File
PAGE : OHB File (T2)
ITEM : File Store

5-3. CCU Y Adjustment

Equipment : Oscilloscope

Test Point : TP3(Y)/DA-88 panel

Preparations:

- S650 (MONITOR SELECT)/IF-538 panel → VBS

Adjustment Procedures:

1. Set the DISPLAY switch/rear panel to MENU while pushing up the MENU SELECT switch to ENTER.
2. Set the menu as follows.

MENU	: System config
PAGE	: Y/Chroma (S2)
ITEM	: CB → On

3. Set the menu as follows and adjust the Y sync using the MENU SELECT knob/switch.

Adjustment Point:

MENU : System config

PAGE : Y/Chroma (S2)

ITEM : Y SYNC

Specifications: A = 303 ± 2 mV (for NTSC)

A = 300 ± 2 mV (for PAL)

4. Set the menu as follows and adjust the Y video using the MENU SELECT knob/switch.

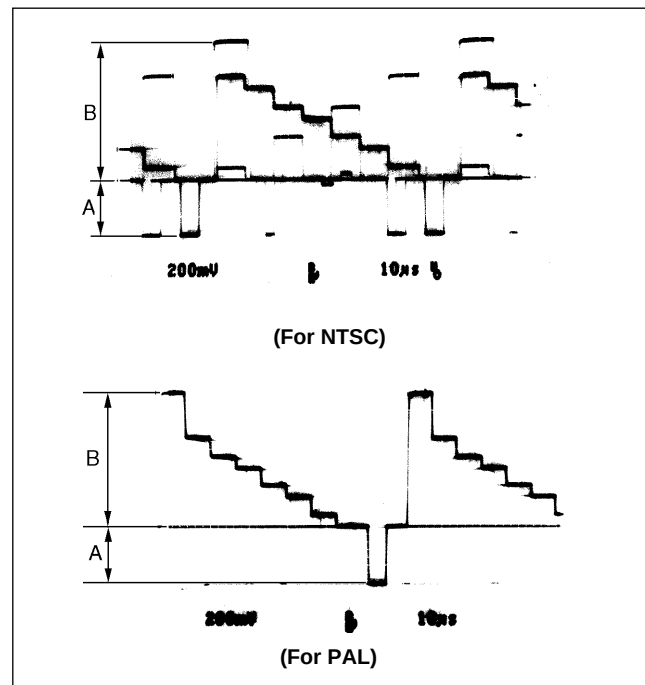
Adjustment Point:

MENU : System config

PAGE : Y/Chroma (S2)

ITEM : Y Video

Specifications: B = 700 ± 2 mV



(20MHz B/W LIMIT → ON)

File Store:

Execute the file store. Throw the MENU SELECT switch to ENTER to execute.

MENU : Triming File

PAGE : Triming File (T1)

ITEM : File Store

5-4. Monitor Out Adjustment

Equipment : Waveform monitor

Test Point : MONITOR connector

Preparations:

- Connect the waveform monitor to the MONITOR connector.
- S650 (MONITOR SELECT)/IF-538 panel → VBS

Adjustment Procedures:

1. Set the DISPLAY switch/rear panel to MENU while pushing up the MENU SELECT switch to ENTER.
2. Set the menu as follows.

MENU : System config
PAGE : Y/Chroma (S2)
ITEM : CB → On

3. **Adjustment Point** : RV100 (VIDEO LEVEL)/IF-538 panel

Specifications : $A = 40 \pm 1$ IRE (for NTSC)
 $A = 300 \pm 2$ mV (for PAL)

4. Adjust the test setup. (NTSC only)

Adjustment Point :

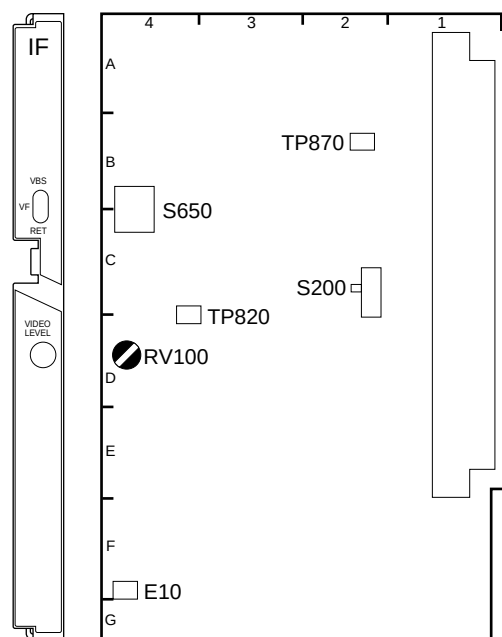
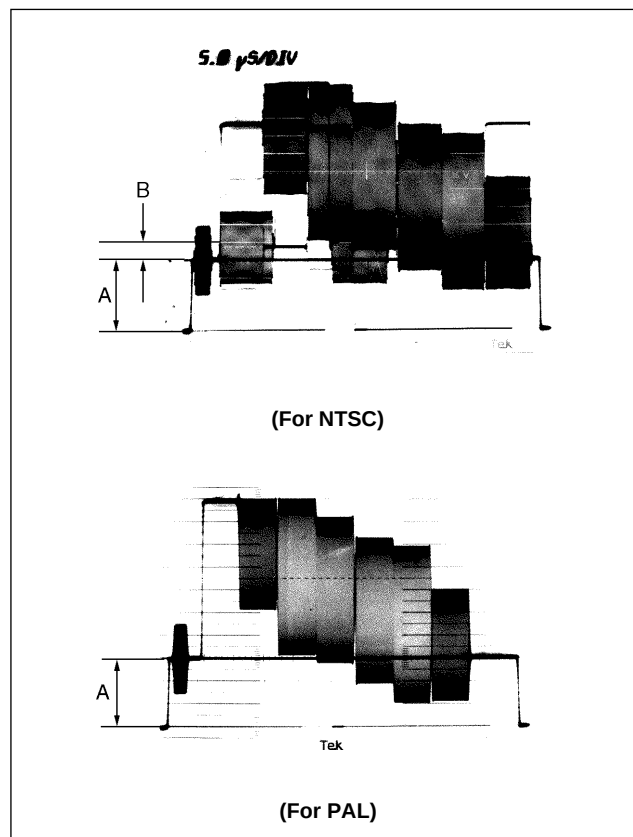
MENU : System config
PAGE : Y/Chroma (S2)
ITEM : TEST SETUP

Specifications : $B = 7.5 \pm 1$ IRE

File Store:

Execute the file store. Throw the MENU SELECT switch to ENTER to execute.

MENU : Trimming File
PAGE : Trimming File (T1)
ITEM : File Store



IF-538 BOARD (A SIDE)

5-5. Chroma Adjustment

Equipment : Waveform monitor, Vectorscope

Test Point : MONITOR connector

Preparations:

- Connect the vectorscope to the MONITOR connector.
- S650 (MONITOR SELECT)/IF-538 panel → VBS

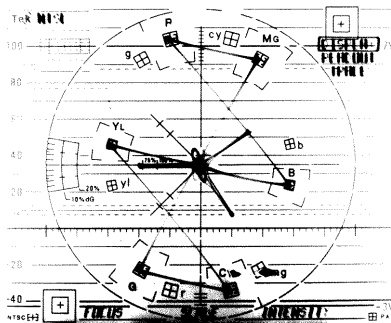
Adjustment procedures:

1. Set the DISPLAY switch/rear panel to MENU while pushing up the MENU SELECT switch to ENTER.
2. Set the menu as follows.
MENU : System config
PAGE : Y/Chroma (S2)
ITEM : CB → On
3. Set the menu as follows.

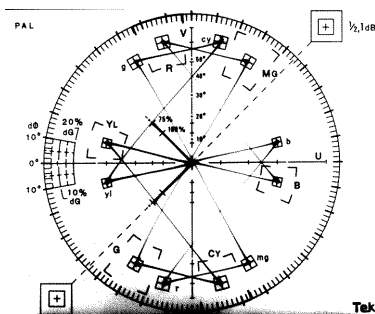
Adjustment Point:

MENU : System config
PAGE : Y/Chroma (S2)
ITEM : Chroma LVL
ITEM : Q/V LVL

Specifications: Adjust the items “Chroma LVL” and “Q/V LVL” alternately using the MENU SELECT knob/switch so that the beam spots are positioned inside the corresponding frames on the vectorscope.



(For NTSC)



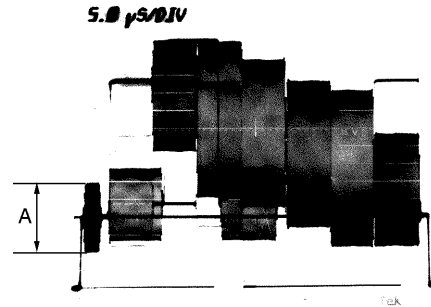
(For PAL)

4. Connect the waveform monitor to the MONITOR connector.

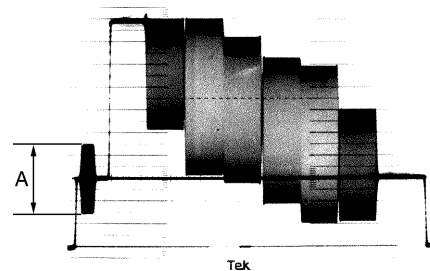
5. Adjustment Point:

MENU : System config
PAGE : Y/Chroma (S2)
ITEM : Burst LVL

Specifications: A = 40 ± 1 IRE (for NTSC)
A = 300 ± 5 mV (for PAL)



(For NTSC)



(For PAL)

File Store:

Execute the file store. Throw the MENU SELECT switch to ENTER to execute.

MENU : Trimming File
PAGE : Trimming File (T1)
ITEM : File Store

5-6. INT SC Phase Adjustment

Notes:

This adjustment procedures are stated below assuming that where the Tektronix 1750 (for BVP-500) or 1751 (for BVP-500P) is used.

If any other measuring instrument is used, follow the instructions given in the operation manual attached to it.

Equipment : Vectorscope (SC-H Phase measuring mode)

Test Point : MONITOR connector

Preparations:

- Connect the vectorscope to the MONITOR connector.
- S650 (MONITOR SELECT)/IF-538 panel → VBS

Adjustment Procedures:

1. Set the DISPLAY switch/rear panel to MENU while pushing up the MENU SELECT switch to ENTER.
2. Set the menu as follows.

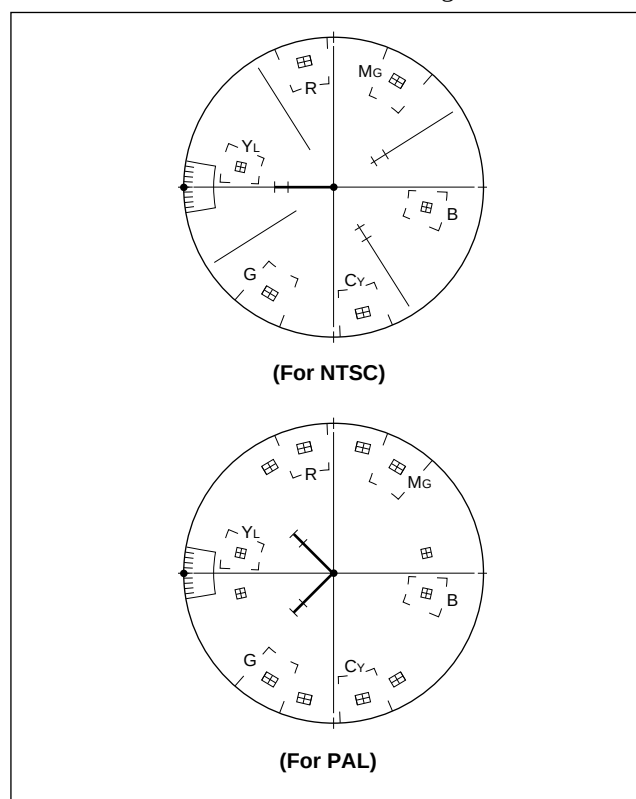
MENU : System config
PAGE : Y/Chroma (S2)
ITEM : CB → On

3. Set the menu as follows and adjust the SC-H phase using the MENU SELECT knob/switch

Adjustment Point:

MENU : System config
PAGE : Y/CHROMA (S2)
ITEM : SC-H Phase

Specifications: Position the luminous line of the burst (SC) and the beam spot of H as shown in the figure.



File Store:

Execute the file store. Throw the MENU SELECT switch to ENTER to execute.

MENU : Trimming File
PAGE : Trimming File (T1)
ITEM : File Store

5-7. VF Level Adjustment

Equipment : Waveform monitor

Test Point : MONITOR connector

Preparations:

- Connect the waveform monitor to the MONITOR connector.
- S650 (MONITOR SELECT)/IF-538 panel → VF
- G button/rear panel → ON

Adjustment Procedures:

1. Set the DISPLAY switch/rear panel to MENU while pushing up the MENU SELECT switch to ENTER.
2. Set the menu as follows.
MENU : System config
PAGE : Y/Chroma (S2)
ITEM : CB → On
3. Set the menu as follows and adjust the REG level using the MENU SELECT knob/switch.

Adjustment Point:

MENU : System config
PAGE : Y/CHROMA (S2)
ITEM : REG LVL

Specifications: Y Level $A = 92.5 \pm 2.0$ IRE (for NTSC)
 $A = 700 \pm 14$ mV (for PAL)

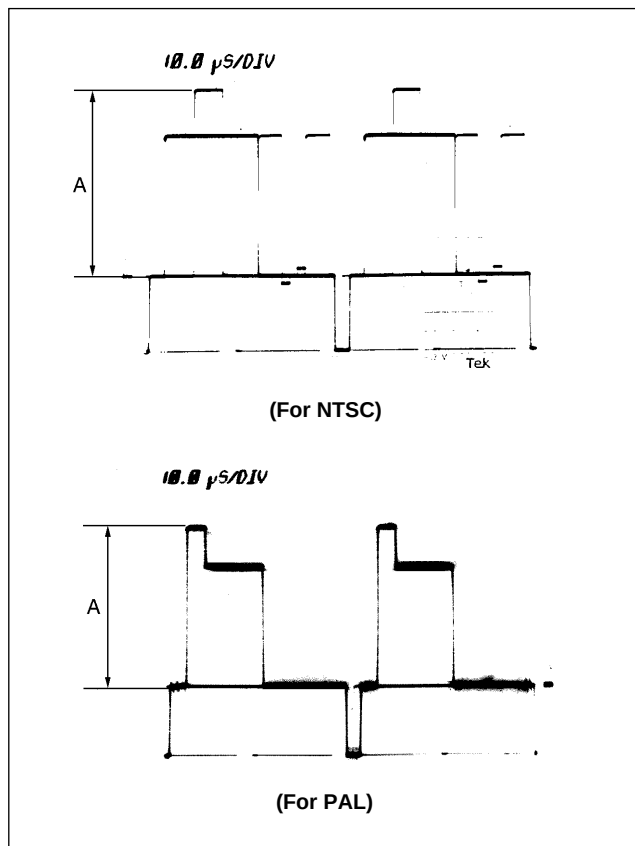
File Store:

Execute the file store. Throw the MENU SELECT switch to ENTER to execute.

MENU : Triming File
PAGE : Triming File (T1)
ITEM : File Store

Resetting after Adjustment :

- S650/IF-538 panel → VBS
- G button/rear panel → OFF



5-8. TEST 1 Adjustment

Equipment : Oscilloscope

Preparations:

- Extend the VA-163 board with the EX-464 extension board.

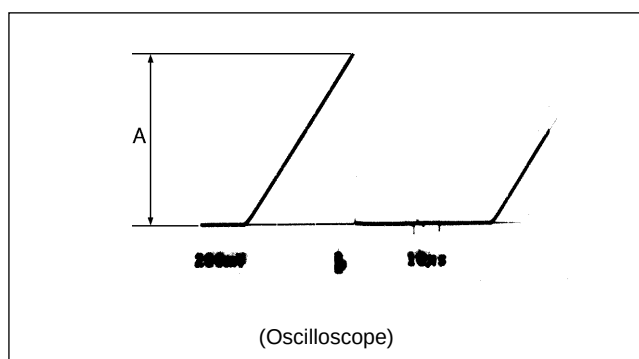
Adjustment Procedures:

1. Execute the level auto setup.
LEVEL button/MSU operation panel → ON (Lights)
START/BREAK button/MSU operation panel → ON (Lights)
2. TEST 1 button/MSU operation panel → ON (Lights)
3. Adjust the G signal level.

Test Point : TP52 (GND: GND(A))/extension board (extending VA-163)

Adjustment Point : RV50 (TEST)/VA-163 panel

Specifications : $A = 880 \pm 2 \text{ mV}$



4. Adjust the white level for R.
Test Point : TP54 (GND: GND(A))/extension board (extending VA-163)

MSU menu operation:

- PAINT button → ON (Lights)
- Touch panel operation
(Page 1/3) → White

Adjustment Item : R

Specifications : $A = 880 \pm 40 \text{ mV}$

5. Adjust the white level for B.

Test Point : TP50 (GND: GND(A))/extension board (extending VA-163)

MSU menu operation:

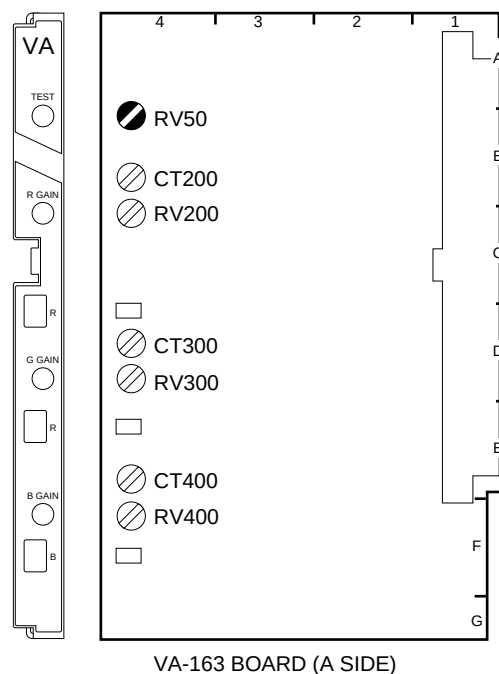
- PAINT button → ON (Lights)
- Touch panel operation
(Page 1/3) → White

Adjustment Item : B

Specifications : $A = 880 \pm 40 \text{ mV}$

Resetting after Adjustment:

TEST 1 button/MSU operation panel → OFF (Goes out)



5-9. TEST 2 Adjustment

Equipment : Oscilloscope

Test Point : TP52 (GND: GND(A))/extension board
(extending VA-163)

Preparations:

- Extend the VA-163 board with the EX-464 extension board.
- TEST 2 button/MSU operation panel → ON (Lights)

Adjustment Procedures:

1. Set the DISPLAY switch/rear panel to MENU while pushing up the MENU SELECT switch to ENTER.
2. Adjust the TEST2 high level.

Adjustment Point:

MENU : System config
PAGE : PR/VA/TEST (S3)
ITEM : TEST2 HI

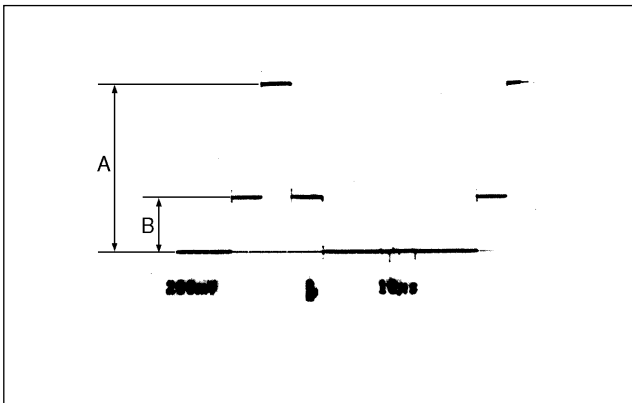
Specifications: A = 880 ± 5 mV

3. Adjust the TEST2 middle level.

Adjustment Point:

MENU : System config
PAGE : PR/VA/TEST (S3)
ITEM : TEST2 MID

Specifications: B = 290 ± 5 mV



File Store:

Execute the file store. Throw the MENU SELECT switch to ENTER to execute.

MENU : Trimming File
PAGE : Trimming File (T1)
ITEM : File Store

Resetting after Adjustment:

- TEST 2 button/MSU operation panel → OFF (Goes out)

5-10. A/D Gain Adjustment

Equipment : Waveform monitor
Test Point : MONITOR connector

Preparations:

- Connect the waveform monitor to the MONITOR connector.
- MASTER GAIN button/MSU operation panel → 0 dB
- KNEE OFF button/MSU operation panel → OFF (Lights)
- DETAIL OFF button/MSU operation panel → OFF (Lights)
- GAMMA OFF button/MSU operation panel → ON (Stays out)
- MSU menu operation (Touch panel)
 PAINT button → ON
 → (Page 2/3) →  →  (Reversed)
- S650 (MONITOR SELECT)/IF-538 panel → VF
- G button/rear panel → ON

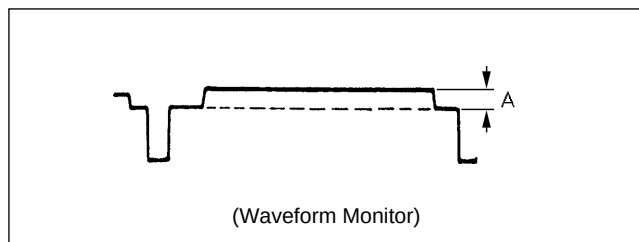
Iris of the lens : CLOSE

Adjustment Procedures

1. Set the waveform monitor as follows.
 - LUM mode
2. Adjust the master black.

Adjustment Point : MASTER BLACK control/
 MSU operation panel

Specifications : $A = 3 \pm 1$ IRE (for NTSC)
 $A = 21 \pm 7$ mV (for PAL)



3. Adjust the auto black balance.
 BLACK button/MSU operation panel → ON (Lights)
4. TEST 2 button/MSU operation panel → ON (Lights)
5. Set the DISPLAY switch/rear panel to MENU while pushing up the MENU SELECT switch to ENTER.

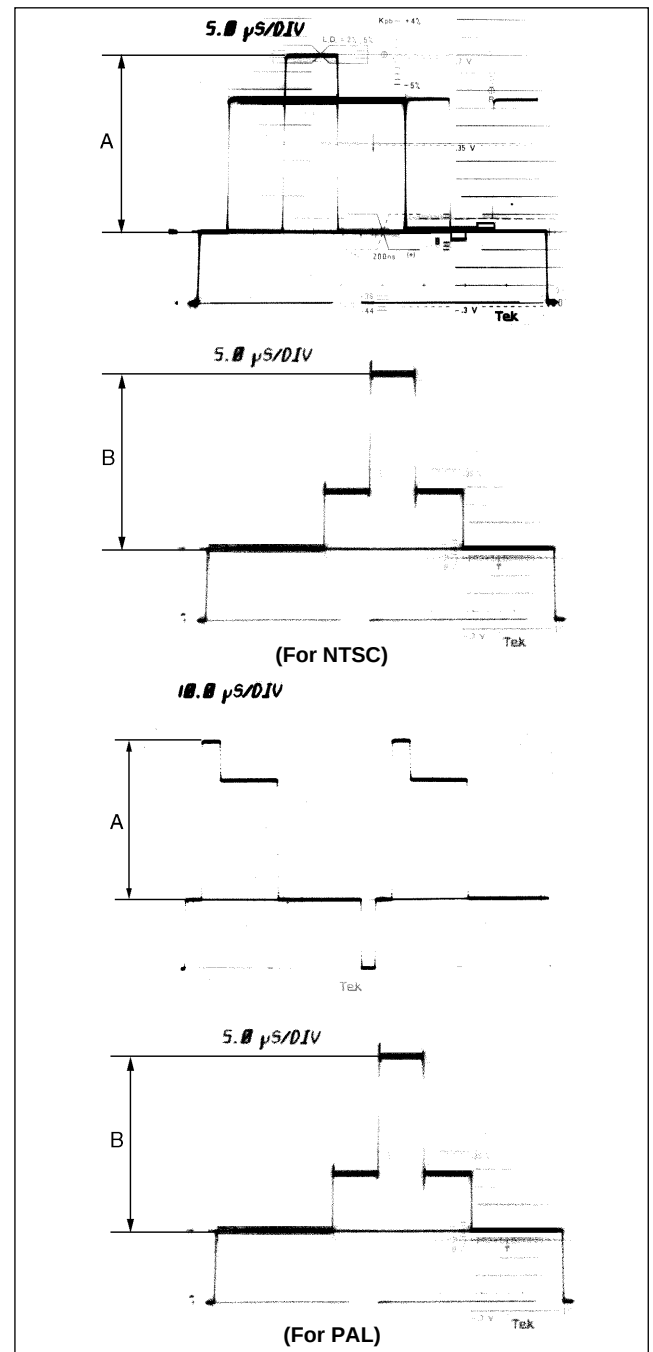
6. Set the menu as follows and adjust the A/D gain for G using the MENU SELECT knob/switch.

Adjustment Point:

MENU : System config
PAGE : PR/VA/TEST (S3)
ITEM : PR AD G [G]

Specifications: The levels A and B shall be equal when the color-bar signal is turned on by setting the menu as follows.

MENU : System config
PAGE : Y/Chroma (S2)
ITEM : CB → On



7. S650 (MONITOR SELECT)/IF-538 panel → VBS
G button/rear panel → OFF
TEST 2 button/MSU operation panel → ON (Lights)
8. Set the menu as follows.
MENU : System config
PAGE : Y/Chroma (S2)
ITEM : CB → Off
9. Adjust the A/D gain for R using the MENU SELECT knob/switch.

Adjustment Point:

MENU : System config
PAGE : PR/VA/TEST (S3)
ITEM : PR AD G [R]

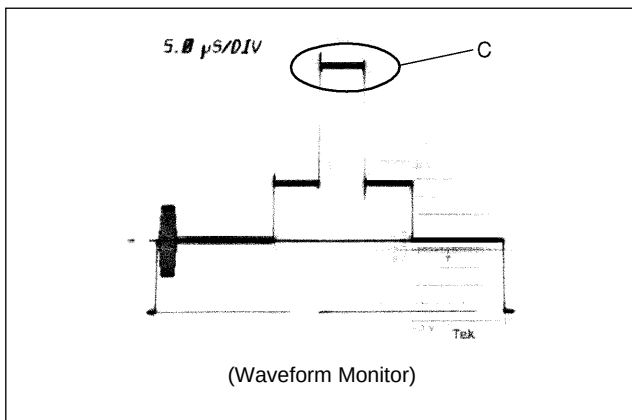
Specifications : Minimize the carrier leakage.
C = Minimum

10. Adjust the A/D gain for B using the MENU SELECT knob/switch.

Adjustment Point:

MENU : System config
PAGE : PR/VA/TEST (S3)
ITEM : PR AD G [B]

Specifications : Minimize the carrier leakage.
C = Minimum



11. Repeat the steps 9 and 10 alternately until the specifications are satisfied.

File Store:

Execute the file store. Throw the MENU SELECT switch to ENTER to execute.

MENU : Trimming File
PAGE : Trimming File (T1)
ITEM : File Store

Resetting after Adjustment:

- DETAIL OFF button → OFF (Lights)
- TEST 2 button → OFF (Goes out)

5-11. VA Gain Adjustment

Setting of Sensitivity and Standard Color Temperature:

- Use the reflective chart (reflection ratio:89.9%) in this adjustment, if possible.
- If a pattern box is used, it should be well-maintained.
- Set the luminous intensity of the chart to 2000 lx and the color temperature to 3200 K.
- This adjustment shall be performed at F7.0 or more.

Note:

- Never change the setting of the following trimmer capacitors. These capacitors are extremely difficult to adjust in the field.

VA-163 board : CT200, CT300, CT400

Equipment : Oscilloscope, Waveform monitor

Object : Gray scale chart

Preparations:

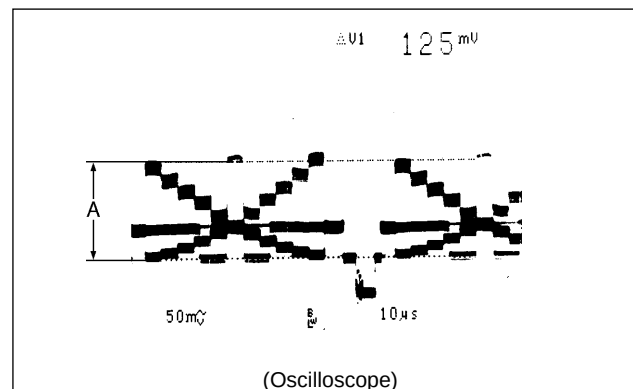
- MASTER GAIN button/MSU operation panel → 0 dB
- Extend the VA-163 board with the EX-464 extension board.
- S650 (MONITOR SELECT)/IF-538 panel → VBS

Adjustment Procedures:

1. Execute the level auto setup.
LEVEL button/MSU operation panel → ON (Lights)
START/BREAK button/MSU operation panel → ON (Lights)
2. TEST 2 button/MSU operation panel → ON (Lights)
3. Adjust the auto white balance.
WHITE button/MSU operation panel → ON (Lights)
4. TEST 2 button/MSU operation panel → OFF (Goes out)
5. KNEE OFF button/MSU operation panel → OFF (Lights)
6. Close the lens iris.
7. Adjust the auto black balance.
BLACK button/MSU operation panel → ON (Lights)
8. Confirm that the black level is 3 IRE for NTSC and 21 mV for PAL at the MONITOR for connector.
If the black level is out of specs, carry out “5-15. Master Black Adjustment”.

9. **Test Point** : TP72 (GND:TP71)/extension board
(extending VA-163)

Iris of the lens: A = 125 mV (at F7.0 or more)



10. S650 (MONITOR SELECT)/IF-538 panel → VF.

G button/rear panel → ON

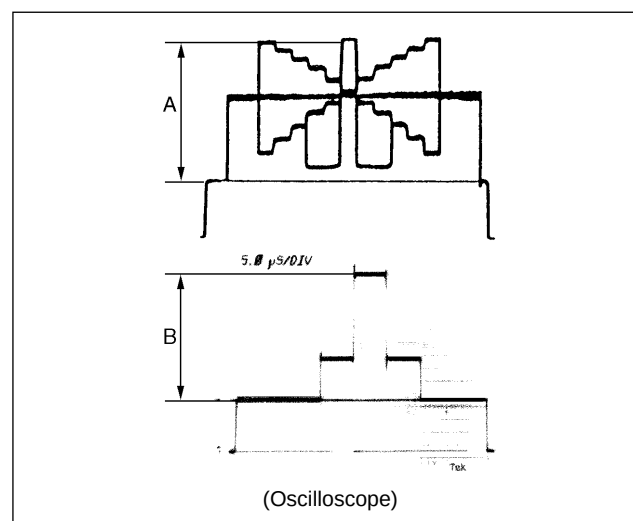
11. Adjust the VA gain for G.

Test Point : MONITOR connector

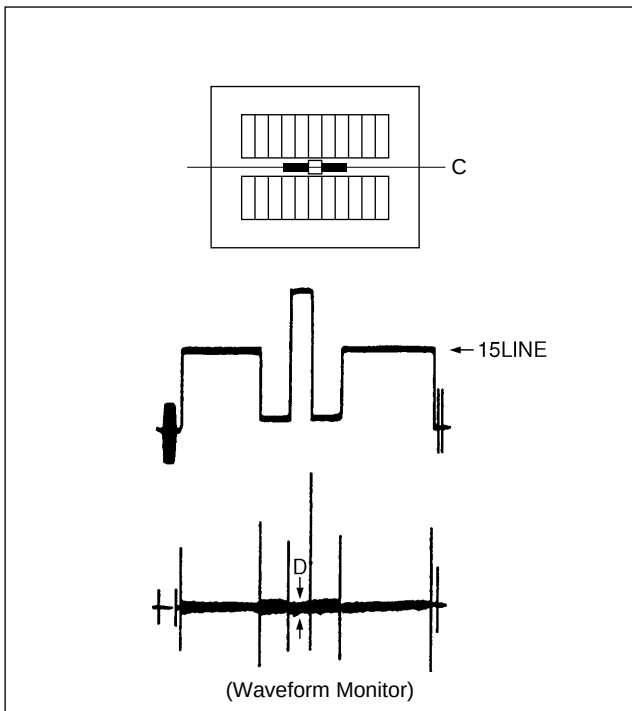
Adjustment Point : RV300 (G GAIN)/VA-163 panel

Specifications : The levels A and B are shall be equal when the TEST 2 button/MSU operation panel is turned on and off.

$$A = B$$

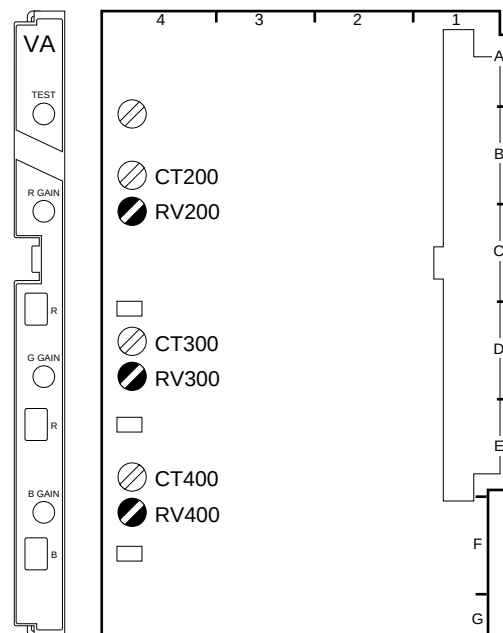


12. Test 2 button/MSU operation panel → OFF
13. Select the 15 lines in the center of monitor screen C by using the 15 LINE SELECT on the waveform monitor.
14. Put the waveform monitor into the CHROMA mode.
15. S650 (MONITOR SELECT)/IF-538 panel → VBS
16. **Test Point** : MONITOR connector
Adjustment Point : RV200 (R GAIN)/VA-163 panel
RV400 (B GAIN)/VA-163 panel
Specifications : Carrier leakage D = Minimum



Resetting after Adjustment:

- S650/IF-538 panel → VBS
- G button/rear panel → OFF



VA-163 BOARD (A SIDE)

5-12. VA MOD Adjustment

Equipment : Waveform monitor
Test Point : MONITOR connector

Preparations:

- Connect the waveform monitor to the MONITOR connector.
- MASTER GAIN button/MSU operation panel → 0 dB
- S650 (MONITOR SELECT)/IF-538 panel → VF
- R button/rear panel → ON

Iris of the lens : CLOSE

Adjustment Procedures:

1. Set the waveform monitor as follows.
 - LUM mode
2. Set the DISPLAY switch/rear panel to MENU while pushing up the MENU SELECT switch to ENTER.
3. Set the menu as follows and adjust the VA MOD for R using the MENU SELECT knob/switch.

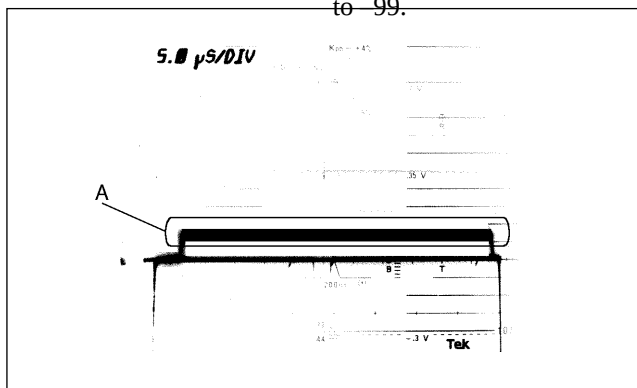
MENU : Maintenance
 PAGE : White Shading (M2)
 ITEM : H Saw [R] → 99

Adjustment Point:

MENU : System config
 PAGE : PR/VA/TEST (S3)
 ITEM : VA MOD [R]

Specifications: Flatten the portion A.

Adjust so that the level at portion A does not fluctuate even if the setting value for H Saw [R] varies from 99 to -99.



(x5)

4. Adjust the VA MOD for G.
 - R button/rear panel → OFF
 - G button/rear panel → ON
 - Set the menu as follows.
 - MENU : Maintenance
 - PAGE : White Shading (M2)
 - ITEM : H Saw [G] → 99

Adjustment Point:

MENU : System config
 PAGE : PR/VA/TEST (S3)
 ITEM : VA MOD [G]

Specifications: Flatten the portion A.

Adjust so that the level at portion A does not fluctuate even if the setting value for H Saw [G] varies from 99 to -99.

5. Adjust the VA MOD for B.
 - G button/rear panel → OFF
 - B button/rear panel → ON
 - Set the menu as follows.
 - MENU : Maintenance
 - PAGE : White Shading (M2)
 - ITEM : H Saw [B] → 99

Adjustment Point:

MENU : System config
 PAGE : PR/VA/TEST (S3)
 ITEM : VA MOD [B]

Specifications: Flatten the portion A.

Adjust so that the level at portion A does not fluctuate even if the setting value for H Saw [B] varies from 99 to -99.

File Store:

Execute the file store. Throw the MENU SELECT switch to ENTER to execute.

MENU : Trimming File
 PAGE : Trimming File (T1)
 ITEM : File Store

Resetting after Adjustment:

- Set the menu as follows. Throw the MENU SELECT switch to ENTER to execute.
- MENU : Maintenance
 PAGE : White Shading (M2)
 ITEM : Clear
- S650 (MONITOR SELECT)/IF-538 panel → VBS
 - R/G/B button/rear panel → OFF

5-13. Black Shading Adjustment

Notes:

- The compensation data obtained by the black shading adjustment is not stored in the OHB File. Therefore, when the OHB is replaced or a new OHB is installed, be sure to perform this adjustment.
- If the shading adjustment is not completed, perform the adjustment again following the message displayed on the viewfinder or MSU.
If the re-adjustment still is not completed, consult Sony service representative.

Preparations:

- Connect the waveform monitor to the MONITOR connector.
- S650 (MONITOR SELECT)/IF-538 panel → VBS

Test Point : MONITOR connector

Iris of the lens : CLOSE

Adjustment Procedures:

1. Set the DISPLAY switch/rear panel to MENU while pushing up the MENU SELECT switch to ENTER.
2. Set the menu as follows and adjust the auto black shading. Throw the MENU SELECT switch to ENTER to execute.
MENU : Maintenance
PAGE : Auto Setup (M4)
ITEM : Black Shading
3. Confirm the "OK" is displayed on the viewfinder or MSU. If the error message is displayed, perform the adjustment again following this message.
Message and its meaning
BLACK:OK : Adjustment correctly completed.
LEVEL TOO HIGH : Lens closing does not operate fully, and so on.
TIME LIMIT : Black shading adjustment could not be completed within the specified number of attempts.
OVER FLOW : The difference between the reference value and the current value is too great, and exceeds adjustment range. Adjustment is then not completed.
4. Confirm the carrier level satisfies the specification on the waveform monitor.

Specifications: Less than 2 IRE (for NTSC)
Less than 14 mV (for PAL)

• Manual Black Shading Adjustment (For reference)

Note:

- Perform this adjustment only when "5-13. Black Shading Adjustment" is not completed.

Equipment : Waveform monitor

Preparations:

- Connect the waveform monitor to the MONITOR connector.
- S650 (MONITOR SELECT)/IF-538 panel → VF
- MASTER GAIN button/MSU operation panel → 18 dB

Test Point : MONITOR connector

Iris of the lens : CLOSE

Adjustment Procedures:

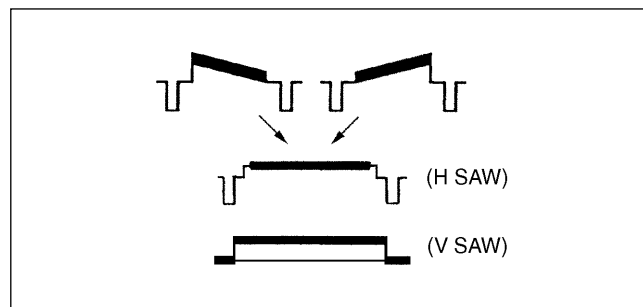
1. Set the waveform monitor as follows.
 - LUM mode
 - VOLTFULL SCALE range → 0.5
2. G button/rear panel → ON
3. Set the black level to 3 IRE for NTSC and 21 mV for PAL with the MASTER BLACK control/MSU operation panel.
4. If the shading is monitored, proceed as follows to make the waveform flat.

MSU menu operation:

- MAINTENANCE button → ON (Lights)
- Touch panel operation

Adjusting → Black Shading → G

Adjustment Items: H SAW, V SAW



5. G button/rear panel → OFF
R button/rear panel → ON
Adjust the R-ch black shading in the same way.
6. R button/rear panel → OFF
B button/rear panel → ON
Adjust the B-ch black shading in the same way.

File Store:

1. Set the DISPLAY switch/rear panel to MENU while pushing up the MENU SELECT switch to ENTER.
2. Execute the file store. Throw the MENU SELECT switch to ENTER to execute.

MENU	: Reference File
PAGE	: Reference File (R1)
ITEM	: File Store

Resetting after Adjustment:

- MASTER GAIN button/MSU operation panel → 0 dB
- S650/IF-538 panel → VBS
- R/G/B button/rear panel → OFF

5-14. White Shading Adjustment

Notes:

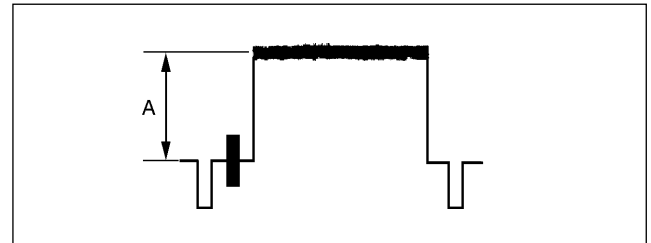
- This adjustment could not be correctly performed if the uneven white patten is used, luminance is not correct, or lens iris and lens zoom are not in good conditions.

Equipment : Waveform monitor
Test Point : MONITOR connector
Object : Full white pattern

Preparations:

- Connect the waveform monitor to the MONITOR connector.
- S650 (MONITOR SELECT)/IF-538 panel → VBS
- KNEE OFF button/MSU operation panel → OFF (Lights)
- Shoot the fully occupied white area of the pattern box in the full underscanned monitor frame adjusting the zoom control.

Iris of the lens : $A = 80 \pm 5$ IRE (for NTSC)
 $A = 560 \pm 14$ mV (for PAL)



Adjustment Procedures:

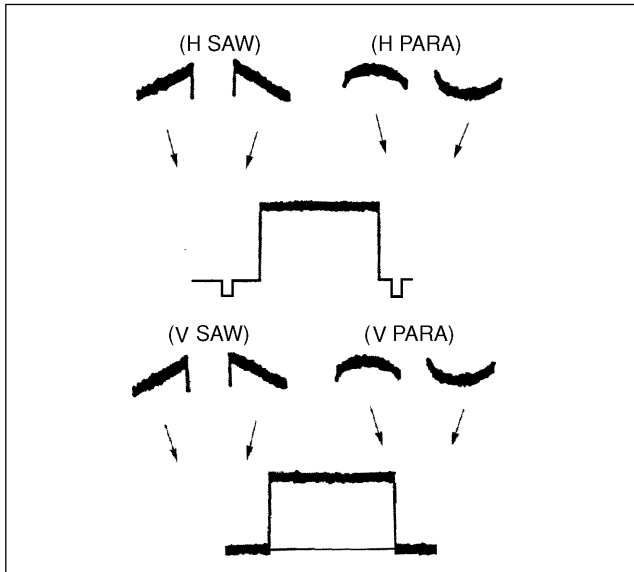
1. Adjust the auto white balance.
WHITE button/MSU operation panel → ON (Lights)
2. Set the waveform monitor as follows.
 - LUM mode
 - VOLTFULL SCALE range → 0.5
3. S650 (MONITOR SELECT)/IF-538 panel → VF
G button/rear panel → ON

4. If the shading is monitored, proceed as follows to make the waveform flat.

- MAINTENANCE button → ON (Lights)
- Touch panel operation

Adjusting → WhiteShading → G

Adjustment Items : H SAW, H PARA, V SAW, V PARA



5. G button/rear panel → OFF
R button/rear panel → ON
Adjust the R-ch white shading in the same way.
6. R button/rear panel → OFF
B button/rear panel → ON
Adjust the B-ch white shading in the same way.

File Store:

1. Set the DISPLAY switch/rear panel to MENU while pushing up the MENU SELECT switch to ENTER.
2. Execute the file store. Throw the MENU SELECT switch to ENTER to execute.

MENU	: Reference File
PAGE	: Reference File (R1)
ITEM	: File Store

Resetting after Adjustment:

- S650/IF-538 panel → VBS
- R/G/B button/rear panel → OFF

5-15. Master Black Adjustment

Equipment : Waveform monitor
Test Point : MONITOR connector

Preparations:

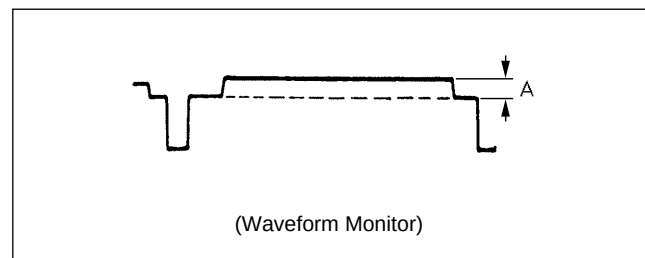
- Connect the waveform monitor to the MONITOR connector.
- S650 (MONITOR SELECT)/IF-538 panel → VF
- G button/rear panel → ON

Iris of the lens : CLOSE

Adjustment Procedures:

1. Set the waveform monitor as follows.
 - LUM mode
2. **Adjustment Point** : MASTER BLACK control/MSU operation panel

Specifications : A = 3 ± 1 IRE (for NTSC)
A = 21 ± 7 mV (for PAL)



3. Adjust the auto black balance.
BLACK button/MSU operation panel → ON (Lights)

File Store:

1. Set the DISPLAY switch/rear panel to MENU while pushing up the MENU SELECT switch to ENTER.
2. Execute the file store. Throw the MENU SELECT switch to ENTER to execute.

MENU	: Reference File
PAGE	: Reference File (R1)
ITEM	: File Store

Resetting after Adjustment:

- S650 (MONITOR SELECT)/IF-538 panel → VBS
- G button/rear panel → OFF

5-16. Gamma Correction Adjustment

Equipment : Waveform monitor,
Vectorscope

Test Point : MONITOR connector

Object : Grayscale chart

Preparations:

- Connect the waveform monitor to the MONITOR connector.
- Connect the waveform monitor to the PIX OUT terminal of the vectorscope.
- KNEE OFF button/MSU operation panel → OFF (Lights)
- GAMMA OFF button/MSU operation panel → ON (Stays out)
- S650 (MONITOR SELECT)/IF-538 panel → VBS
- Shoot the grayscale chart so that the chart frame is aligned with the underscanned monitor frame.

Iris of the lens : A = 100 ± 2 IRE (for NTSC)
A = 700 ± 14 mV (for PAL)

Adjustment Procedures:

1. S650 (MONITOR SELECT)/IF-538 panel → VF
G button/rear panel → ON
2. Adjust the master gamma. Proceed as follows.

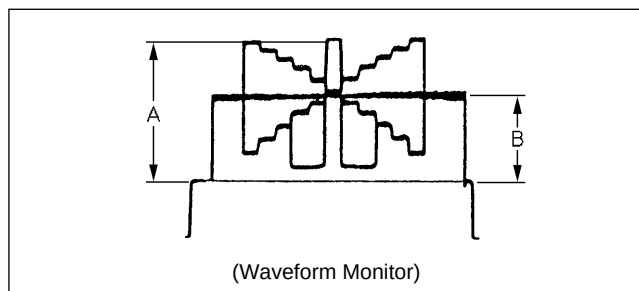
MSU menu operation:

- PAINT button → ON (Lights)
- Touch panel operation

Δ → (Page 2/3) → Gamma

Adjustment Item : Master

Specifications : B = 55.5 ± 2.0 IRE (for NTSC)
B = 420 ± 14 mV (for PAL)



3. Close the lens iris.
4. TEST 1 button/MSU operation panel → ON (Lights)
S650(MONITOR SELECT)/IF-538 panel → VBS
5. Adjust the auto white balance.
WHITE button/MSU operation panel → ON (Lights)

6. Adjust the R gamma. Proceed as follows.

MSU menu operation:

- PAINT button → ON (Lights)
- Touch panel operation

Δ → (Page 2/3) → Gamma

Adjustment Item : R

Specifications : Center the beam spot on the vectorscope.

7. Adjust the B gamma. Proceed as follows.

MSU menu operation:

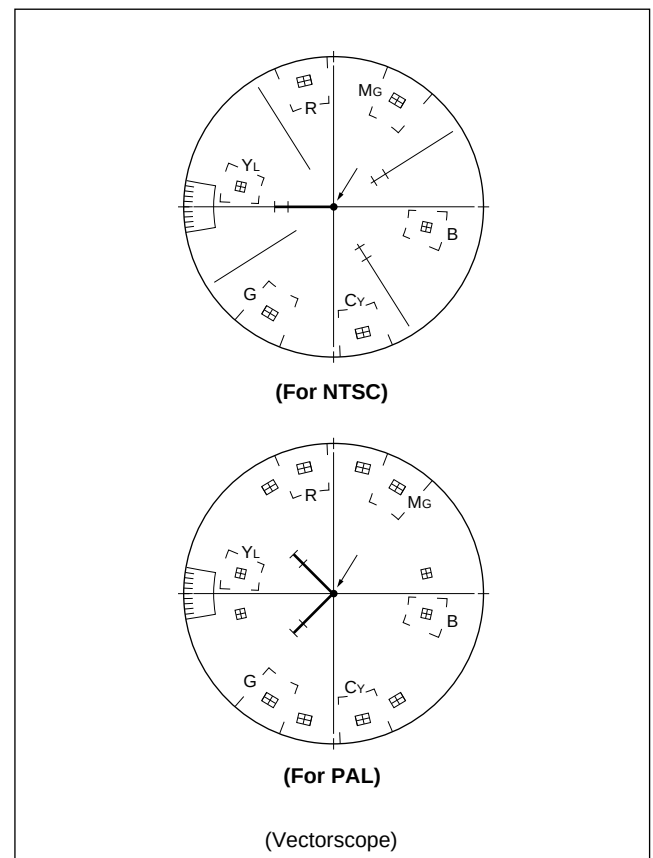
- PAINT button → ON (Lights)
- Touch panel operation

Δ → (Page 2/3) → Gamma

Adjustment Item : B

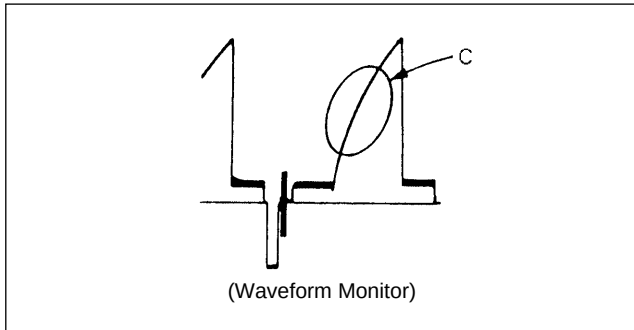
Specifications : Center the beam spot on the vectorscope.

8. Repeat the steps 6 and 7 alternately, until the beam spot is minimized on the vectorscope.



9. Confirm that the carrier leakage does not observed at portion C on the waveform monitor.

Specifications : C = Minimum



File Store:

1. Set the DISPLAY switch/rear panel to MENU while pushing up the MENU SELECT switch to ENTER.
2. Execute the file store. Throw the MENU SELECT switch to ENTER to execute.

MENU : Reference File
 PAGE : Reference File (R1)
 ITEM : File Store

Resetting after Adjustment:

- TEST 1 button/MSU operation panel → OFF (Goes out)
- G button/rear panel → OFF

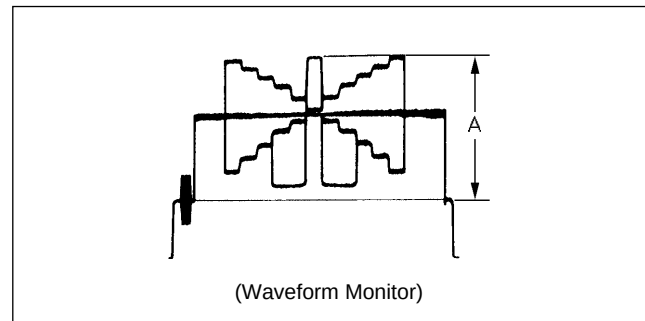
5-17. Flare Adjustment

Equipment : Waveform monitor
Test Point : MONITOR connector
Object : Grayscale chart

Preparations:

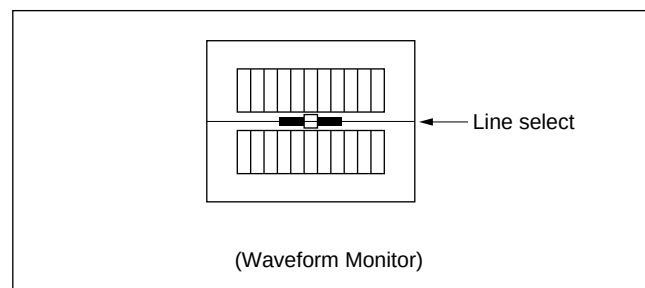
- Connect the waveform monitor to the MONITOR connector.
- KNEE OFF button/MSU operation panel → OFF (Lights)
- S650 (MONITOR SELECT)/IF-538 panel → VBS
- Shoot the grayscale chart so that the chart frame is aligned with the underscanned monitor frame.

Iris of the lens : A = 100 ± 2 IRE (for NTSC)
 A = 700 ± 14 mV (for PAL)



Adjustment Procedures:

1. Adjust the auto white balance.
 WHITE button/MSU operation panel → ON (Lights)
2. Open the iris control of the lens by two stops against the reference setup (corresponding to the above A).
3. S650 (MONITOR SELECT)/IF-538 panel → VF
 G button/rear panel → ON
4. Select the 15 lines in the center of the monitor screen by using the 15 LINE SELECT on the waveform monitor.



5. MSU menu operation:

- PAINT button → ON (Lights)
- Touch panel operation
(Page 1/3) → **Flare** → **Flare Off** (Reversed)

Confirm that the level at portion B does not fluctuate even if the flare is turned on/off.

6. If fluctuates, adjust the G flare as follows.

- Touch panel operation
Turn the flare on. (**Flare Off** is not reversed.)

Adjustment Items: G

7. S650 (MONITOR SELECT)/IF-538 panel → VBS

8. Adjust the R flare.

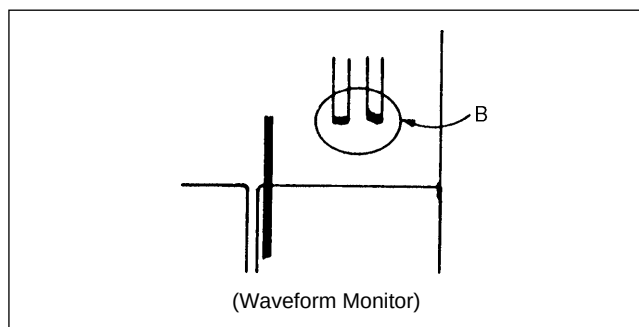
Adjustment Item : R

Specifications : Minimize the carrier leakage.

9. Adjust the B flare.

Adjustment Item : B

Specifications : Minimize the carrier leakage.



10. Repeat the steps 8 and 9 alternately, until the carrier leakage is minimized.

File Store:

1. Set the DISPLAY switch/rear panel to MENU while pushing up the MENU SELECT switch to ENTER.
2. Execute the file store. Throw the MENU SELECT switch to ENTER to execute.

MENU : Reference File
PAGE : Reference File (R1)
ITEM : File Store

Resetting after Adjustment:

- G button/rear panel → OFF

5-18. Pre Knee Adjustment

Equipment : Oscilloscope, Waveform monitor

Preparations:

- Extend the VA-163 board with the EX-464 extension board.
- S650 (MONITOR SELECT)/IF-538 panel → VBS
- KNEE OFF button/MSU operation panel → ON (Goes out)
- MASTER GAIN button/MSU operation panel → 9 dB
- TEST 2 button/MSU operation panel → ON (Lights)

Iris of the lens : CLOSE

Adjustment Procedures:

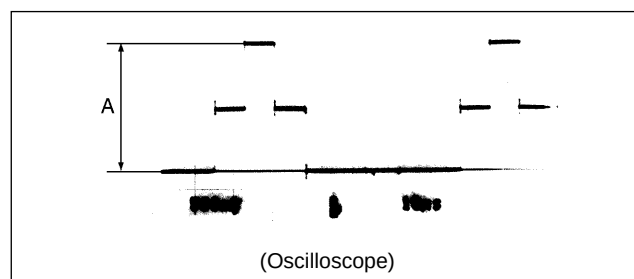
1. Adjust the auto white balance.
WHITE button/MSU operation panel → ON (Lights)
2. Set the DISPLAY switch/rear panel to MENU while pushing up the MENU SELECT switch to ENTER.
3. Adjust the Preknee1 for G. Proceed as follows.

Test Point : TP52 (GND:GND(A))/extension board (extending VA-163)

Adjustment Point:

MENU : System config
PAGE : Pre Knee/Zebra (S4)
ITEM : PreKnee1[G]

Specifications : $A = 1.68 \pm 0.02$ V p-p



4. MASTER GAIN button/MSU operation panel → 12 dB

5. Adjust the Preknee2 for G. Proceed as follows.

Test Point : TP52 (GND:GND(A))/extension board (extending VA-163)

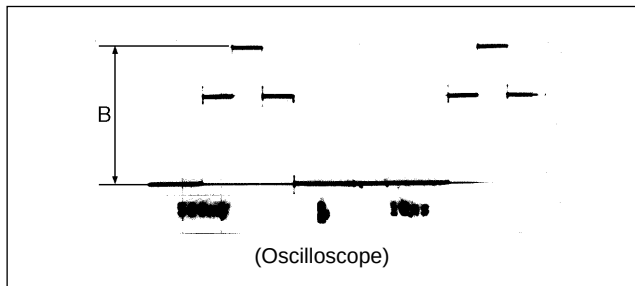
Adjustment Point:

MENU : System config

PAGE : Pre Knee/Zebra (S4)

ITEM : PreKnee2[G]

Specifications : B = 1.80 ± 0.02 V p-p



6. TEST 1 button/MSU operation panel → ON (Lights).
 AUTO KNEE button/MSU operation panel → ON (Lights).
 MASTER GAIN button/MSU operation panel → 18dB

7. Adjust the Preknee1 for R. Proceed as follows.

Test Point : MONITOR connector

Adjustment Point:

MENU : System config

PAGE : Pre Knee/Zebra (S4)

ITEM : PreKnee1[R]

Specifications : Minimize the carrier leakage C.

8. Adjust the Preknee1 for B. Proceed as follows.

Test Point : MONITOR connector

Adjustment Point:

MENU : System config

PAGE : Pre Knee/Zebra (S4)

ITEM : PreKnee1[B]

Specifications : Minimize the carrier leakage C.

9. Adjust the Preknee2 for R. Proceed as follows.

Test Point : MONITOR connector

Adjustment Point:

MENU : System config

PAGE : Pre Knee/Zebra (S4)

ITEM : PreKnee2[R]

Specifications : Minimize the carrier leakage D.

10. Adjust the Preknee2 for B. Proceed as follows.

Test Point : MONITOR connector

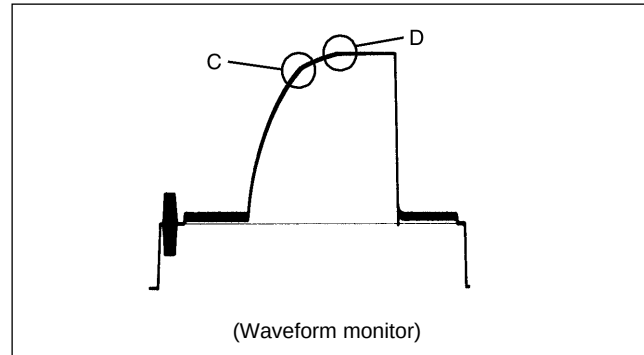
Adjustment Point:

MENU : System config

PAGE : Pre Knee/Zebra (S4)

ITEM : PreKnee2[B]

Specifications : Minimize the carrier leakage D.



File Store:

Execute the file store. Throw the MENU SELECT switch to ENTER to execute.

MENU : Trimming File

PAGE : Trimming File (T1)

ITEM : File Store

Resetting after Adjustment:

- MASTER GAIN button/MSU operation panel → 0 dB
- TEST 1 button/MSU operation panel → OFF (Goes out)

5-19. Knee and White Clip Adjustment

Equipment : Waveform monitor
Test Point : MONITOR connector

Preparations:

- Connect the waveform monitor to the MONITOR connector.
- S650 (MONITOR SELECT)/IF-538 panel → VBS
- KNEE OFF button/MSU operation panel → ON (Goes out)
- MASTER GAIN button/MSU operation panel → 9 dB

Adjustment Procedures:

1. Confirm that the black level is 3 IRE for NTSC and 21 mV for PAL.
2. Adjust the auto black balance.
BLACK button/MSU operation panel → ON (Lights)
3. TEST 1 button/MSU operation panel → ON (Lights)
4. Adjust the knee point. Proceed as follows.

MSU menu operation:

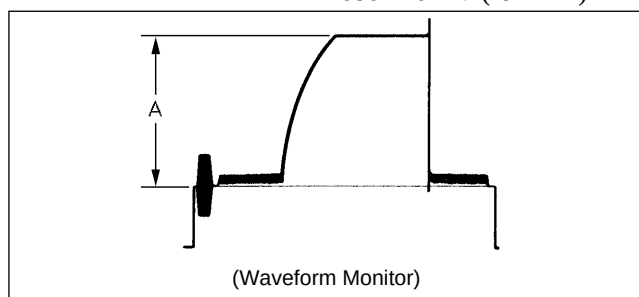
- PAINT button → ON (Lights)
- Touch panel operation

Δ → (Page 2/3) → White Clip
 → White Clip Off (Reversed)

(Page 2/3) → Knee Point → Knee Max

Adjustment Item : Master

Specifications : A = 98 ± 2 IRE (for NTSC)
 A = 686 ± 10 mV (for PAL)



5. Adjust the knee slope. Proceed as follows.

MSU menu operation:

- PAINT button → ON (Lights)

- Touch panel operation

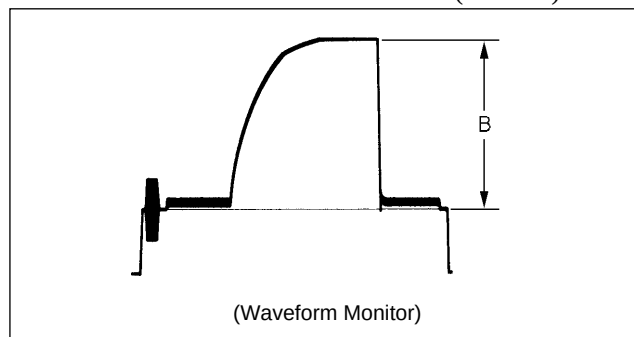
(Page 2/3) → Knee Point

Turn off the knee max. (Knee Max is not reversed.)

(Page 2/3) → Knee Slope

Adjustment Item : Master

Specifications : B = 109 ± 2 IRE (for NTSC)
 B = 763 ± 10 mV (for PAL)



6. MASTER GAIN button/MSU operation panel → 18 dB
7. Adjust the white clip. Proceed as follows.

MSU menu operation:

- PAINT button → ON (Lights)

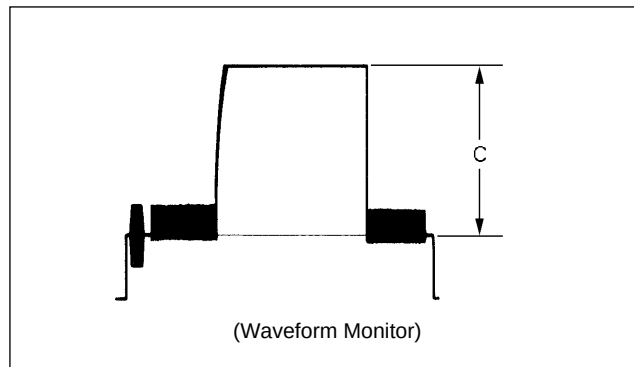
- Touch panel operation

(Page 2/3) → White clip

Turn on the white clip. (White Clip Off is not reversed.)

Adjustment Item : Master

Specifications : C = 109 ± 2 IRE (for NTSC)
 C = 750 ± 10 mV (for PAL)



Resetting after Adjustment:

- TEST 1 button/MSU operation panel → OFF (Goes out)
- MASTER GAIN button/MSU operation panel → 0 dB

File Store:

1. Set the DISPLAY switch/rear panel to MENU while pushing up the MENU SELECT switch to ENTER.
2. Execute the file store. Throw the MENU SELECT switch to ENTER to execute.

MENU : Reference File
PAGE : Reference File (R1)
ITEM : File Store

Note:

The values used in the above adjustments are under the conditions that the white clip level is set to 109 IRE (for NTSC) or 763 mV (for PAL).

When the white clip level is set to other value than 109 IRE or 763 mV, use the following table to set the levels of the knee point and knee slope.

	White Clip Level (Unit: IRE/mV)			
	109/763	107/749	105/735	103/721
Knee point	98/686	98/686	96/672	96/672
Knee slope	109/763	109/763	107/750	107/750
White clip	109/763	107/749	105/735	103/721

- As for the detail adjustments, refer to Section 4, 4-10 to 4-18. Adjust according to the customer's preferences.

5-20. A/D CLOCK PHASE Adjustment

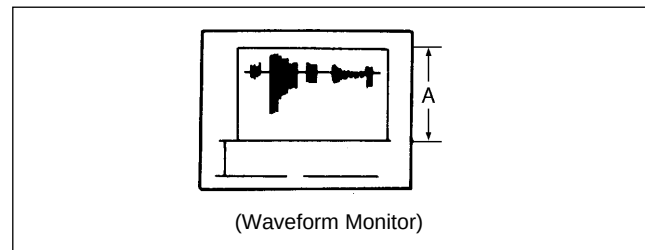
Equipment : Waveform monitor
Test Point : MONITOR connector
Object : Multiburst chart

Preparations:

- Connect the waveform monitor to the MONITOR connector.
- Shoot the multiburst chart so that the chart frame is aligned with the underscanned monitor frame with the zoom control.
Pan so that the 9 MHz portion of the multiburst chart is positioned at the center of the monitor screen.
- AUTO KNEE button/MSU operation panel → ON (Lights)
- S650 (MONITOR SELECT)/IF-538 panel → VBS

Adjustment Procedures:

1. **Iris of the lens:** A = 90 ± 2 IRE (for NTSC)
A = 630 ± 10 mV (for PAL)



2. Set the DISPLAY switch/rear panel to MENU while pushing up the MENU SELECT switch to ENTER.
3. Set the menu as follows and adjust the G clock phase using the MENU SELECT knob/switch.

Adjustment Point:

MENU : System config
PAGE : PR/VA/TEST (S3)
ITEM : G Clock

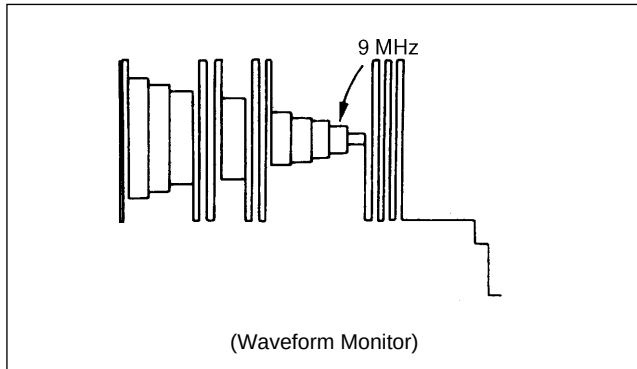
Specifications : Maximize the 9 MHz signal portion.

4. Adjust the R and B clock phases.

Adjustment Point:

MENU : System config
PAGE : PR/VA/TEST (S3)
ITEM : R/B Clock

Specifications : Minimize the aliasing around 9MHz signal portion.



File Store:

Execute the file store. Throw the MENU SELECT switch to ENTER to execute.

MENU : Triming File
 PAGE : Triming File (T1)
 ITEM : File Store

5-21. CCU Y/R-Y/B-Y Adjustment

Equipment : Oscilloscope

Adjustment Procedures:

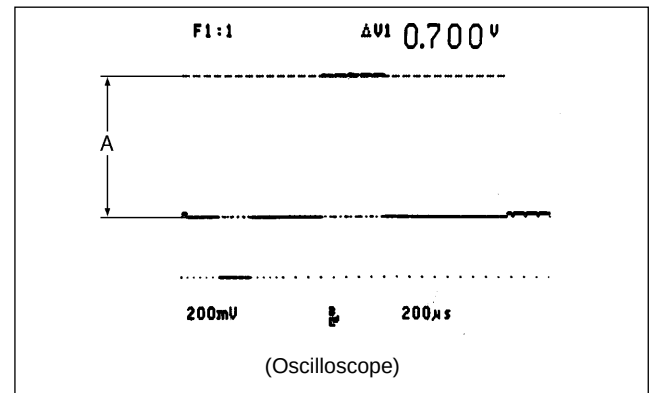
1. Set the DISPLAY switch/rear panel to MENU while pushing up the MENU SELECT switch to ENTER.
2. Set the menu as follows and adjust the CCU Y sample using the MENU SELECT knob/switch.

Test Point : TP3 (Y)(GND:E1)/DA-88 panel

Adjustment Point:

MENU : System config
 PAGE : VTR/CCU (S5)
 ITEM : CCU Y SAMP

Specifications : A = 700 ± 2 mV



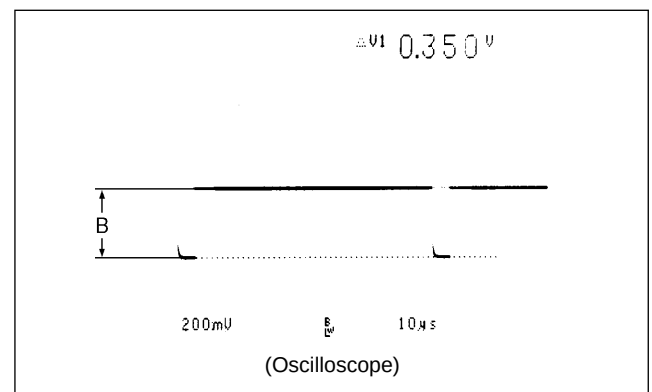
3. Set the menu as follows and adjust the CCU R-Y sync using the MENU SELECT knob/switch.

Test Point : TP4 (R-Y)(GND:E1)/DA-88 panel

Adjustment Point:

MENU : System config
 PAGE : VTR/CCU (S5)
 ITEM : CCU R-Y SYNC

Specifications : B = 350 ± 2 mV



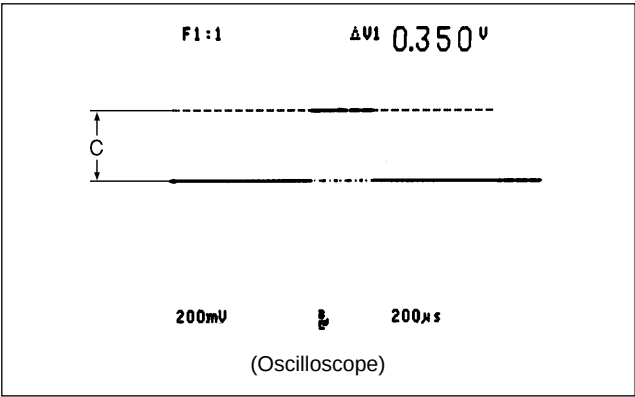
4. Set the menu as follows and adjust the CCU B-Y sample using the MENU SELECT knob/ switch.

Test Point : TP5 (B-Y)(GND:E1)/DA-88 panel

Adjustment Point:

MENU : System config
PAGE : VTR/CCU (S5)
ITEM : CCU B-Y SAMP

Specifications : C = 350 ±2 mV



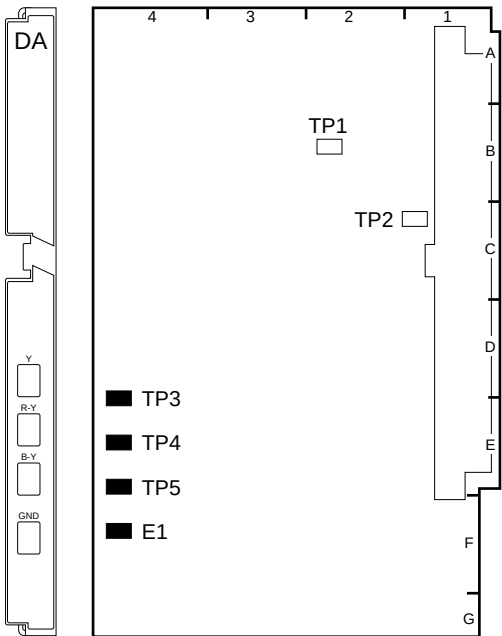
File Store:

Execute the file store. Throw the MENU SELECT switch to ENTER to execute.

MENU : Triming File
PAGE : Triming File (T1)
ITEM : File Store

5-22. Settings After Finishing Adjustment

- DETAIL OFF button/MSU operation panel → ON (Goes out)
- GAMMA OFF button/MSU operation panel → ON (Goes out)
- KNEE OFF button/MSU operation panel → ON (Goes out)
- Execute the reference file store.
MENU : Reference File
PAGE : Reference File (R1)
ITEM : File Store
(Throw the MENU SELECT switch to ENTER to execute.)



5-23. Audio Modulation/Demodulation Adjustment

Note :

●RV1 and ●RV3 on the AU-211 board and ●RV40, ●RV200, ●RV300 and ●RV301 on the AU-215 board can be set according to a customer's preference.
For details, refer to Section 1-5 "Function of Internal Switches/Controls".

5-23-1. BATTERY ALARM SET Adjustment

Notes :

- This adjustment is only for the camera incorporating the standalone unit BKP-5910/5910P.
- Adjustment for ●RV4 is very critical. Do not turn it as far as the circuit normally activates.

Equipment : Digital voltmeter Oscilloscope
DC variable power supply

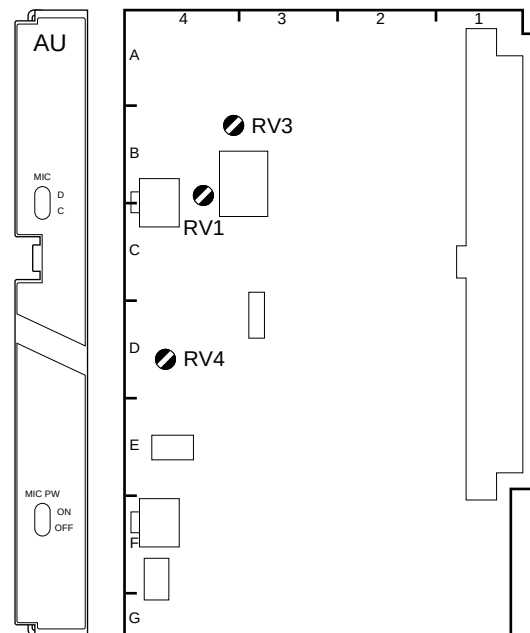
Preparation :

- Supply about +13 Vdc from the DC variable power supply via the DC IN connector of the BKP-5910/5910P.

Adjustment Point : ●RV4/AU-211 (D-4)

Adjustment Procedures:

1. Turn ●RV4 fully clockwise.
2. Measure voltage at TP84 (GND:GND A)/extension board (extending AU-211).
3. Adjust the voltage at TP84 for $+11.20 \pm 0.05$ V.
4. Slowly turn ●RV4 counterclockwise observing the waveform at TP42/extension board (extending AU-211) on the oscilloscope.
5. Adjust ●RV4 so that an 1.0-Hz, 8.0-Vp-p rectangler wave just appears.



AU-211 BOARD (A SIDE)

5-23-2. MIC 1 RF Adjustment

Notes :

- This adjustment requires longer warm-up periods (10 to 30 minutes).
- Use a plastic core driver to adjust ⦿LV.

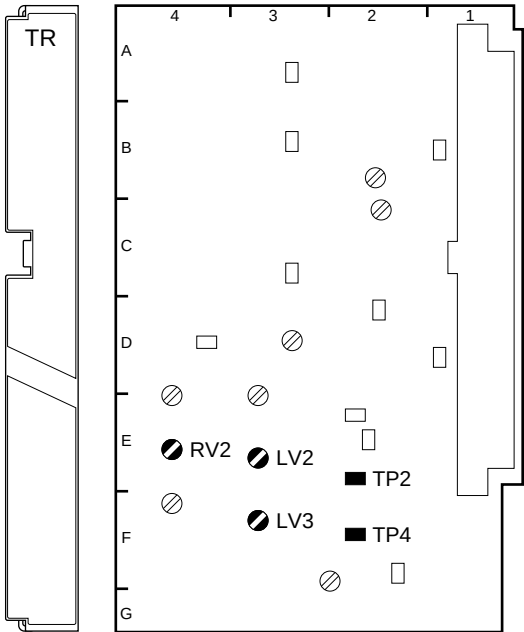
Equipment : Frequency counter
Test Point : TP2/TR-90 (E-2)
Adjustment Point : ⦿LV2 (6.2 MHz)/TR-90 (E-3)
Specifications : 6,200 ±5 kHz

5-23-3. MIC 2 RF Adjustment

Notes :

- This adjustment requires longer warm-up periods (10 to 30 minutes).
- Use a plastic core driver to adjust ⦿LV.

Equipment : Frequency counter
Test Point : TP4/TR-90 (F-2)
Adjustment Point : ⦿LV3 (6.7 MHz)/TR-90 (F-3)
Specifications : 6,700 ±5 kHz



TR-90 BOARD (A SIDE)

5-23-4. MIC 1 DEVIATION Adjustment

Note :

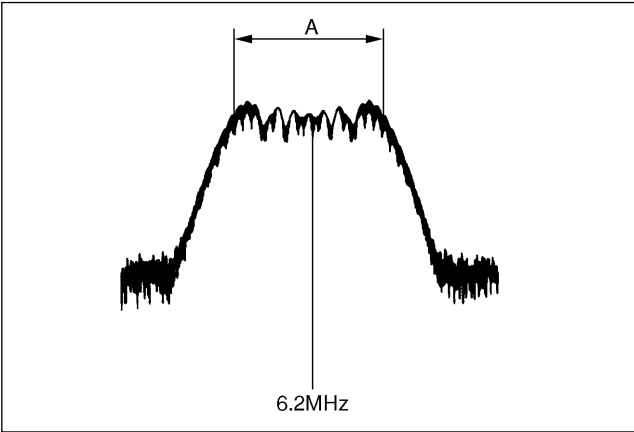
- This adjustment requires longer warm-up periods (10 to 30 minutes).

Equipment : Spectrum analyzer
Audio generator

Preparations :

- SW6 (MIC LINE SEL)/AU-211 (E-4) → MIC 1
- CCU-700/700P/700A/700AP setting
S1003 (MIC LEVEL CH1)/AT-88 panel→ NORM
- Feed an 1.0-kHz, -60 dBu (2.2 mVp-p) sine wave signal from the audio generator to the MIC CH-1 connector.
(Refer to Section 5-1-4 “Connection—For audio adjustments”).

Test Point : TP2/TR-90 (E-2)
Adjustment Point : ⦿RV2 (MIC1 DEV)/TR-90 (E-4)
Specifications : A = 16.0 ±0.8 kHz



CENTER FREQ 6.2 MHz
SPAN 50 kHz
RBW 1 kHz

Resetting after Adjustment:

- S1003/AT-88 → customer-set position

5-23-5. MIC 2 DEVIATION Adjustment

Note :

- This adjustment requires longer warm-up periods (10 to 30 minutes).

Equipment : Spectrum analyzer
 Audio generator

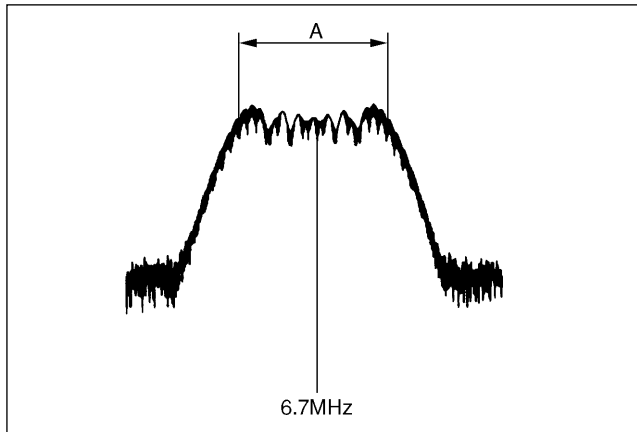
Preparations :

- CCU-700/700P/700A/700AP setting
 S1004 (MIC LEVEL CH2)/AT-88 panel → NORM
- Feed an 1.0-kHz, -60 dBu (2.2 mVp-p) sine wave signal from the audio generator to the MIC CH-2 connector.
 (Refer to Section 5-1-4 "Connection —For audio adjustments".)

Test Point : TP4/TR-90 (F-2)

Adjustment Point : ⚙RV3 (MIC2 DEV)/TR-90 (F-4)

Specifications : A = 18.0 ± 0.8 kHz



CENTER FREQ 6.7 MHz
 SPAN 50 kHz
 RBW 1 kHz

Resetting after Adjustment:

- S1004/AT-88 → customer-set position

5-23-6. INCOM RF Adjustment

Notes :

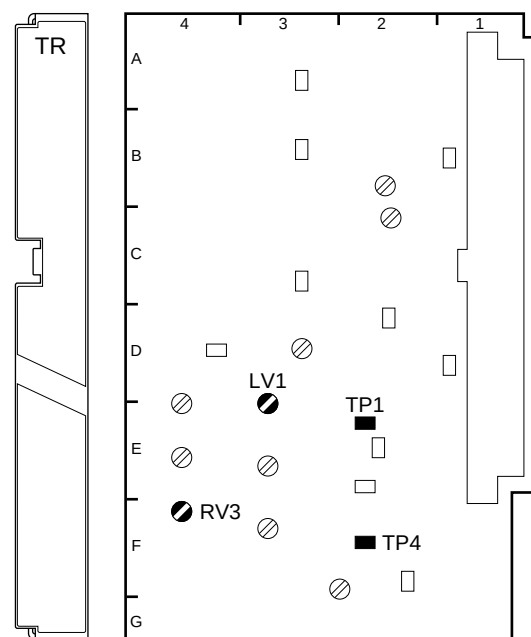
- This adjustment requires longer warm-up periods (10 to 30 minutes).
- Use a plastic core driver to adjust ⚙LV.

Equipment : Frequency counter

Test Point : TP1/TR-90 (E-2)

Adjustment Point : ⚙LV1 (7.1 MHz)/TR-90 (E-3)

Specifications : $7,100 \pm 5$ kHz



TR-90 BOARD (A SIDE)

5-23-7. INCOM DEVIATION Adjustment

Note :

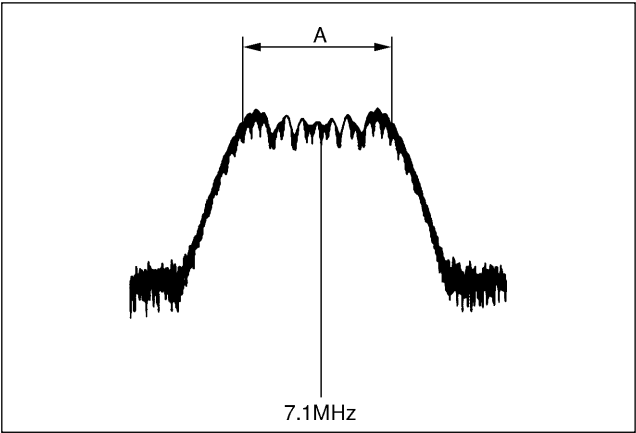
- This adjustment requires longer warm-up periods (10 to 30 minutes).

Equipment : Spectrum analyzer
Audio generator

Preparations :

- SW1 (INCOM MIC SEL)/AU-211 panel→ D
- Feed an 1.0-kHz, -60 dBu (2.2 mVp-p) sine wave signal from the audio generator to the INTERCOM connector. (Refer to Section 5-1-4 “Connection —For audio adjustments”.

Test Point : TP1/TR-90 (E-2)
Adjustment Point : ⚙RV1 (INCOM DEV)/TR-90 (E-4)
Specifications : A = 20.0 ±0.8 kHz



CENTER FREQ 7.1 MHz
SPAN 50 kHz
RBW 1 kHz

Resetting after Adjustment:

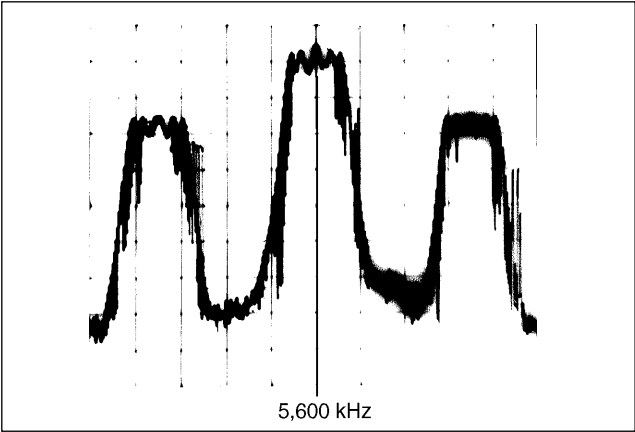
- SW1/AU-211 panel → C

5-23-8. DATA RF Adjustment

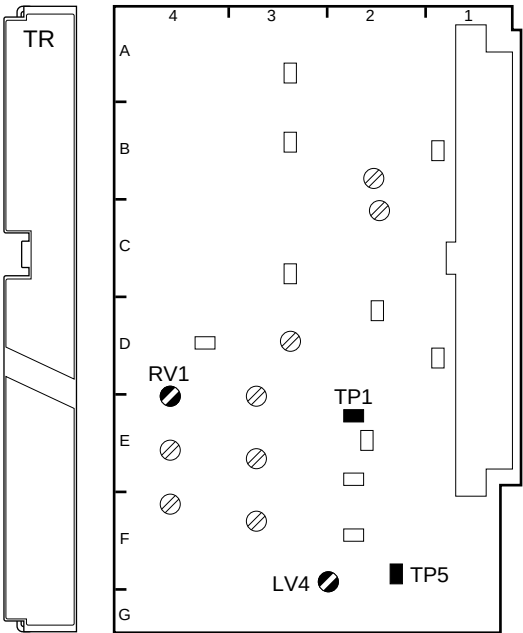
Notes :

- This adjustment requires longer warm-up periods (10 to 30 minutes).
- Use a plastic core driver to adjust ⚙LV.

Equipment : Spectrum analyzer
Test Point : TP5/TR-90 (F-2)
Adjustment Point : ⚙LV4 (5.6 MHz)/TR-90 (F-2)
Specifications : Center frequency 5,600 ±5 kHz



CENTER FREQ 5,600 kHz
SPAN 100 kHz
RBW 1 kHz



TR-90 BOARD (A SIDE)

5-23-9. INCOM Demodulation Adjustment

Notes :

- This adjustment is necessary only when replacing T202 or T203 on the TR-90 board.
- Use a plastic core driver to adjust $\odot$ T.

Equipment : Oscilloscope Audio generator
Audio analyzer

Preparations :

- INTERCOM level control/rear panel $\rightarrow$ $\odot$ fully clockwise
- CCU-700/700P/700A/700AP setting
Extend the AT-88 board of the CCU.
S2081 (PGM IN 0 dB/-20 dB)/AT-88 (D-5) $\rightarrow$ 0dB
S2082 (PGM MIX ON/OFF)/AT-88 (F-5) $\rightarrow$ ON

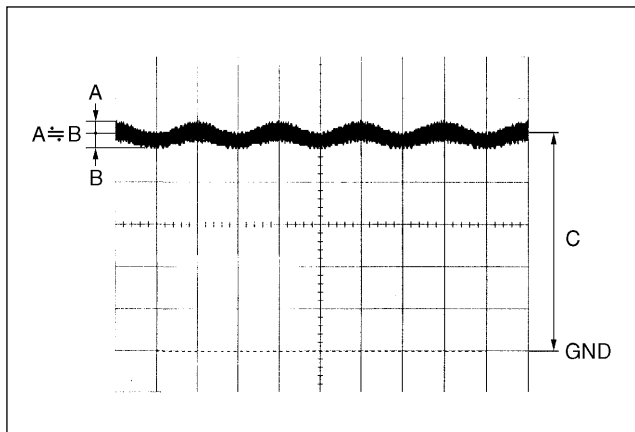
Test Point : Pin 4 (X), Pin 3 (G)/
INTERCOM connector

Adjustment Procedures:

1. Feed an 1.0-kHz sine wave signal from the audio generator to pins D68 (X), A69 (Y), and B69 (GND) on the extension board (extending AT-88) referring to Section 5-1-4 "Connection — For audio adjustments".
2. Adjust the audio generator so that the level at TP44 (GND:E1)/AT-88 (L-7) is 200 mVp-p.
3. Connect the oscilloscope to TP204 (GND:E1)/TR-90 (A-3).
4. Slowly turn $\odot$ T202 (A-2) until a sign wave appears around 5.0 Vdc. Adjust $\odot$ T202 for the following specifications.

Adjustment Point : $\odot$ T202/TR-90 (A-2)

Specifications : C = 5.0 ± 0.1 Vdc

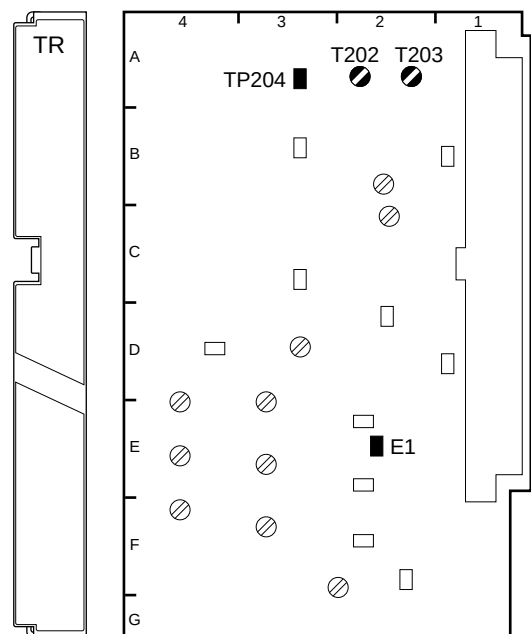


5. **Adjustment Point** : $\odot$ T203/TR-90 (A-2)

Specifications : The distortion is 0.3% or less and minimum.

Resetting after Adjustment:

- S2081, S2082/AT-88 $\rightarrow$ customer-set position



TR-90 BOARD (A SIDE)

5-23-10. PGM Demodulation Adjustment

Note :

- This adjustment is necessary only when replacing T200 or T201 on the TR-90 board.
- Use a plastic core driver to adjust $\odot$ T.

Equipment : Oscilloscope Audio generator
 Audio analyzer

Preparations :

- PGM level control/rear panel $\rightarrow$ $\odot$ fully clockwise
- CCU-700/700P/700A/700AP setting
 Extend the AT-88 board of the CCU.
 S2081 (PGM IN 0 dB/-20 dB)/AT-88 (D-5) $\rightarrow$ 0dB
 S2082 (PGM MIX ON/OFF)/AT-88 (F-5) $\rightarrow$ OFF

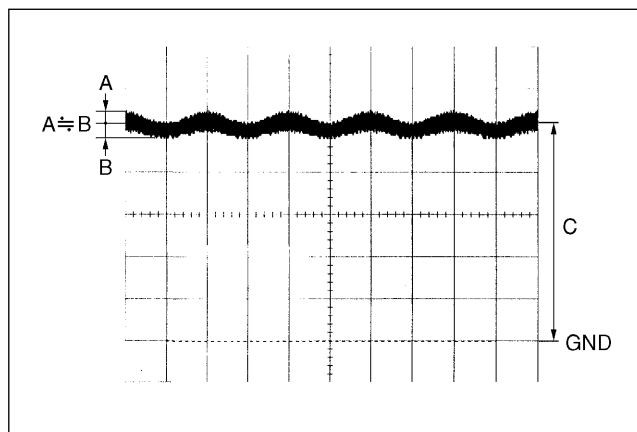
Test Point : Pin 5 (X), Pin 3 (G)/
 INTERCOM connector

Adjustment Procedures:

1. Feed an 1.0-kHz sine wave signal from the audio generator to pins D68 (X), A69 (Y), and B69 (GND) on the extension board (extending AT-88) referring to Section 5-1-4 "Connection — For audio adjustments".
2. Adjust the audio generator so that the level at TP44 (GND:E1)/AT-88 (L-7) is 200 mVp-p.
3. Connect the oscilloscope to TP203 (GND:E1)/TR-90 (B-3).
4. Slowly turn $\odot$ T200 (B-2) until a sign wave appears around 5.0 Vdc. Adjust $\odot$ T200 (B-2) for the following specifications.

Adjustment Point : $\odot$ T200/TR-90 (A-2)

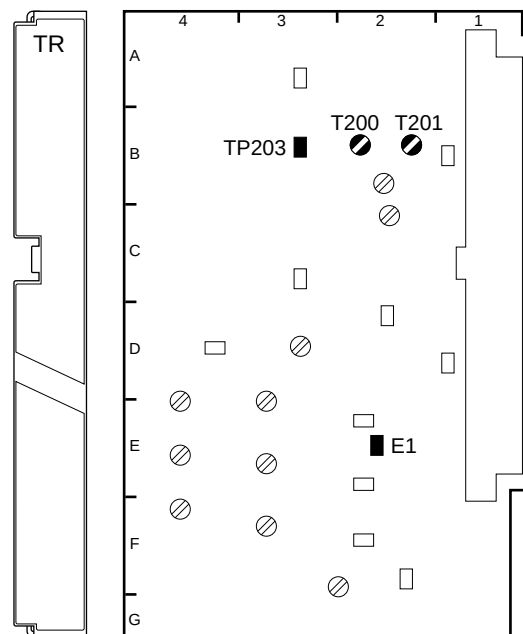
Specifications : $C = 5.0 \pm 0.1$ Vdc



5. **Adjustment Point** : $\odot$ T201/TR-90 (B-2)
Specifications : The distortion is 0.3% or less and minimum.

Resetting after Adjustment:

- S2081, S2082/AT-88 $\rightarrow$ customer-set position



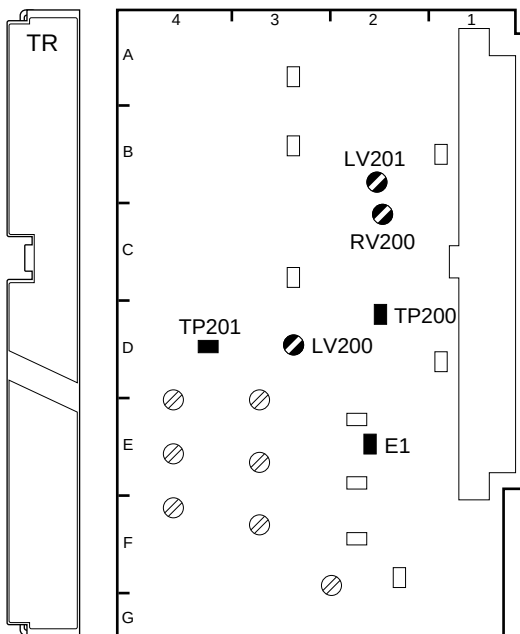
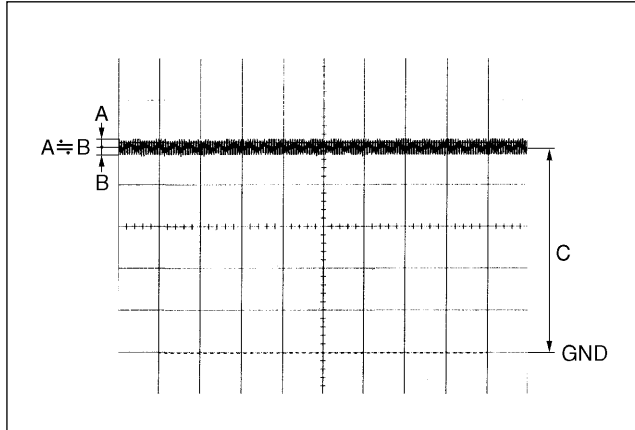
TR-90 BOARD (A SIDE)

5-23-11. DATA Demodulation Circuit Adjustment

Note :

- Use a plastic core driver to adjust $\odot$ LV.

Equipment : Oscilloscope
Test Point : TP201 (GND:E1)/TR-90 (D-4)
Adjustment Point : $\odot$ LV200/TR-90 (D-3)
Specifications : $C = 4.9 \pm 0.1$ V



TR-90 BOARD (A SIDE)

5-23-12. H CONT Demodulation Circuit Adjustment

Note :

- Use a plastic core driver to adjust $\odot$ LV.

Equipment : Digital voltmeter or Oscilloscope
 DC variable power supply
 Frequency counter

Preparations :

- Turn on the POWER switch of the camera power assembly.
- CCU-700/700P/700A/700AP setting
 Extend the AT-88 board of the CCU.
 Supply +2.5 Vdc to pin C19 (GND:E1)/extension board (extending AT-88) from the DC variable power supply.
 Observing the frequency counter, adjust the DC variable power supply so that the frequency at TP1 (GND:E2)/AT-88 (G-7) is 2.500 ± 0.005 MHz.

Test Point : TP81/extension board
 (extending TR-90)

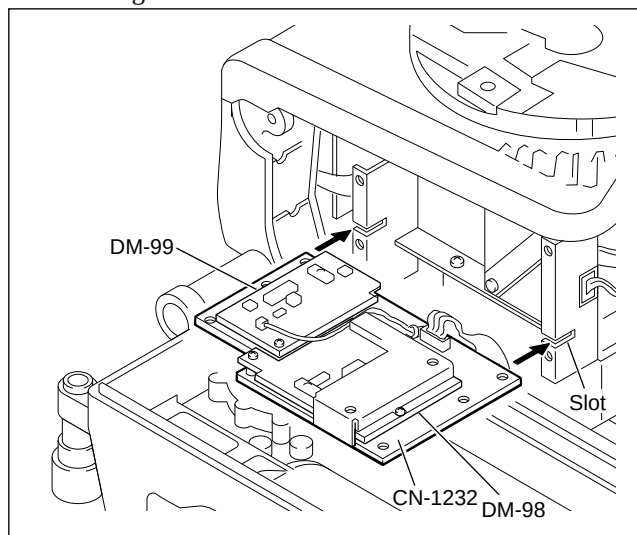
Adjustment Procedures:

1. Turn off the POWER switch.
2. Connect between TP59 and TP90/extension board (extending TR-90).
3. **Adjustment Point** : $\odot$ LV201/TR-90 (B-2)
Specifications : 2.5 ± 0.2 Vdc
4. Disconnect TP90 and connect between TP59 and GND A.
5. **Adjustment Point** : $\odot$ RV200/TR-90 (C-2)
Specifications : 2.5 ± 0.2 Vdc

5-24. Video Modulation/Demodulation Adjustment

Notes :

- Refer to Sections 5-1-4 and 5-1-5 for connection and initial settings.
- Make sure that the adjustments of Sections 5-2 through 5-22 are complete.
- ⚙RV2 on the DM-98 board does not function in the unit.
- When adjusting the DM-98/99 board, remove the CN-1232 board as follows.
 - (1) Open the left side panel.
 - (2) Remove the four screws securing the CN-1232 board to the unit.
 - (3) Insert the CN-1232 board into the slots as shown in the figure



5-24-1. VCO 45 MHz Adjustment

Note :

- This adjustment requires longer warm-up periods (10 to 30 minutes).

Equipment : Frequency counter

Test Point : TP9 (GND:E1)/MD-103 (F-2)

Adjustment Point : ⚙RV13 (VCO ADJ)/MD-103 (F-3)

Specifications : 45, 000,000 $\pm$ 10 Hz

5-24-2. Y Level Adjustment

Equipment : Oscilloscope

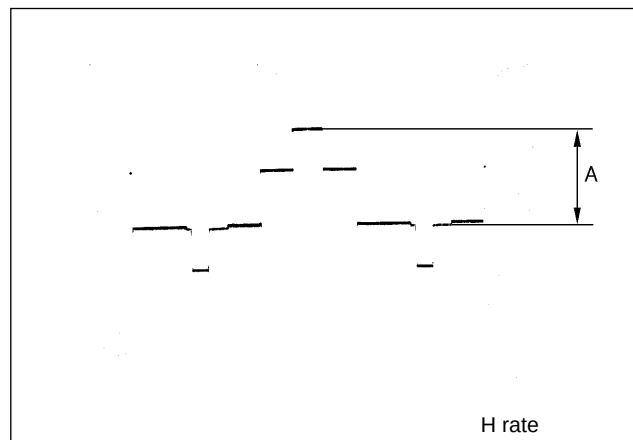
Preparation :

- TEST 2 button MSU operation panel → ON (Lights)

Test Point : TP61 (GND:TP59)/extension board
(extending MD-103)

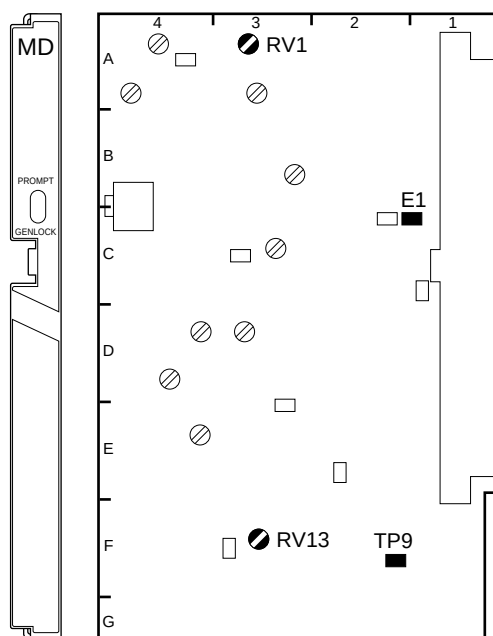
Adjustment Point : ⚙RV1 (VTR Y LVL)/
MD-103 (A-3)

Specifications : A = 1400 mV $\pm$ 2%



Resetting after Adjustment:

- TEST 2 button/MSU operation panel → OFF (Goes out)



MD-103 BOARD (A SIDE)

5-24-3. Y SYNC Cancel Adjustment

Equipment : Oscilloscope

Preparation :

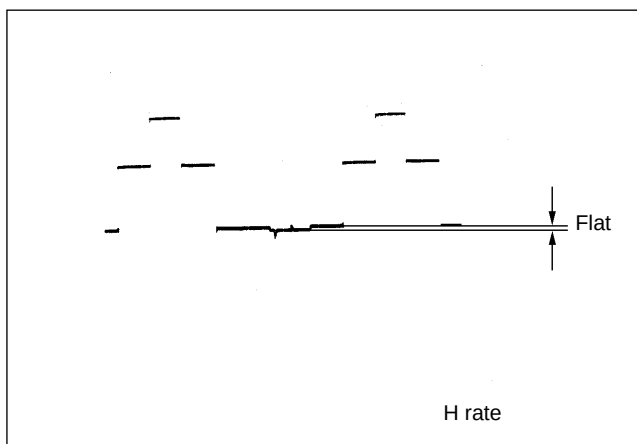
- TEST 2 button MSU operation panel → ON (Lights)

Test Point : TP1 (GND:E1)/MD-103 (C-3)

Adjustment Point : ⚙RV2 (SYNC CANCEL)/
MD-103 (A-3)

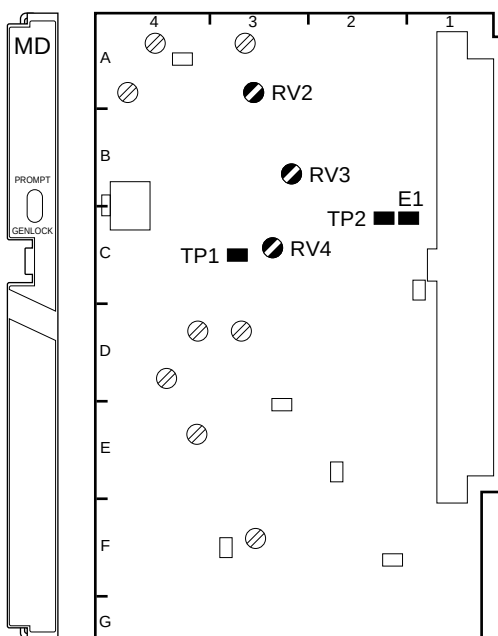
Adjustment Procedures:

Adjust ⚙RV2 so that the H SYNC portion is flat.



Resetting after Adjustment:

- TEST 2 button MSU operation panel → OFF (Goes out)



MD-103 BOARD (A SIDE)

5-24-4. Y/SKIN DC Balance Adjustment

Equipment : Oscilloscope (LIMITER → OFF)

Test Point : TP2 (GND:E1)/MD-103 (C-2)

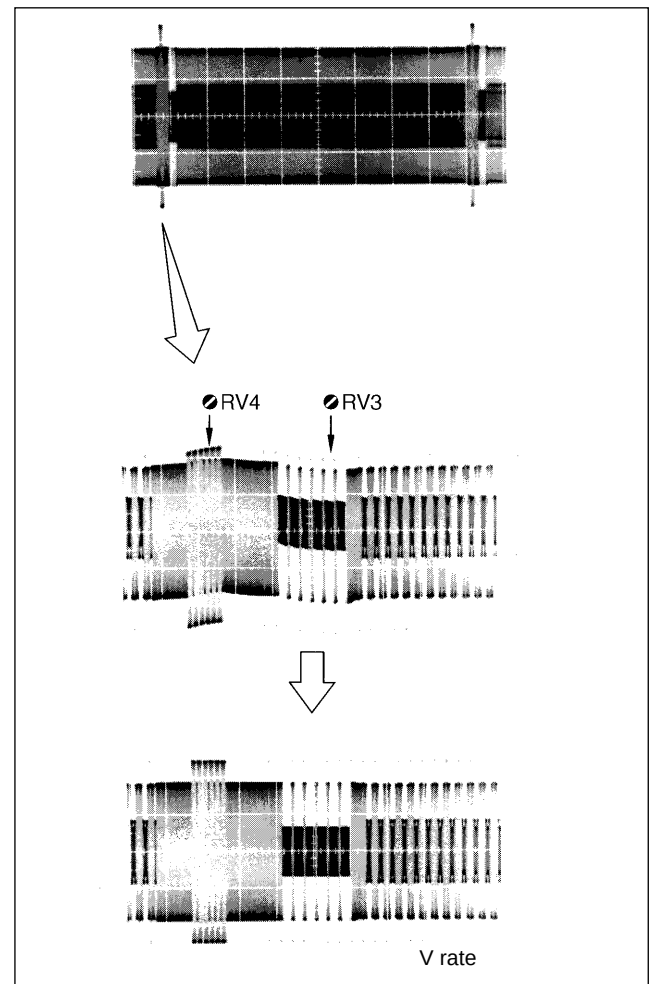
Trigger : SYNC OUTPUT connector/
CCU rear panel

Adjustment Points : ⚙RV3 (Y DC BAL)/MD-103 (B-3)

⚙RV4 (SKIN DC BAL)/MD-103 (C-3)

Adjustment Procedure :

Adjust ⚙RV3 and ⚙RV4 alternately until the V SYNC portions are flat.



5-24-5. Y/SKIN 90° Adjustment

Notes :

- This adjustment is necessary only when replacing FL2 on the MD-103 board.
- Use a plastic core driver to adjust ⚙FL.

Equipment : Oscilloscope

Preparation:

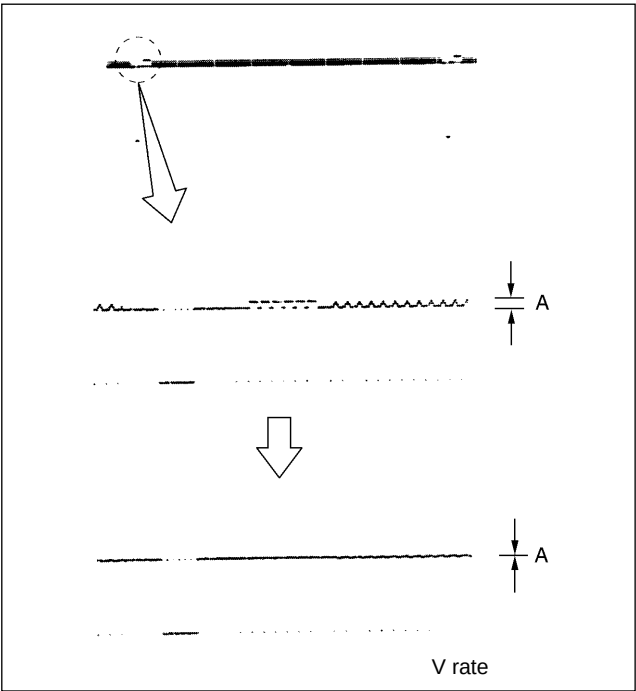
- CCU-700/700P/700A/700AP setting
Extend the DM-94 board of the CCU.

Test Point : TP26 (GND:E5)/DM-94 (F-8)

Trigger : SYNC OUTPUT connector/
CCU rear panel

Adjustment Point : ⚙FL2/MD-103 (C-2)

Specifications : $A = 0 \pm 2 \text{ mV}$



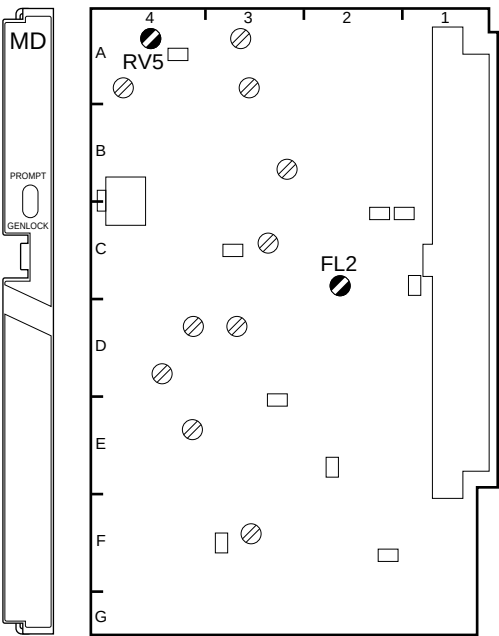
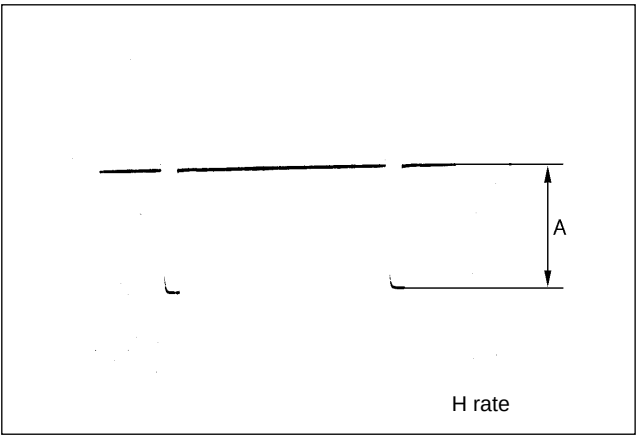
5-24-6. R-Y Level Adjustment

Equipment : Oscilloscope

Test Point : TP63 (GND:TP65)/extension board
(extending MD-103)

Adjustment Point : ⚙RV5 (VTR R-Y LVL)/
MD-103 (A-4)

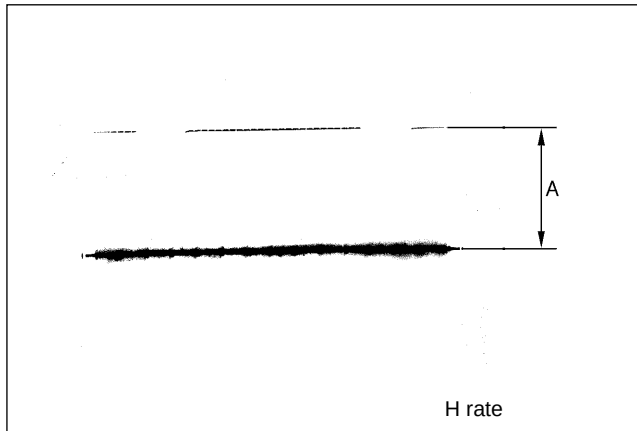
Specifications : $A = 700 \pm 14 \text{ mV}$



MD-103 BOARD (A SIDE)

5-24-7. B-Y Level Adjustment

Equipment : Oscilloscope
Test Point : TP67 (GND:TP69)/extension board
 (extending MD-103)
Adjustment Point : ⚙RV9 (VTR B-Y LVL)/
 MD-103 (A-4)
Specifications : $A = 700 \pm 14 \text{ mV}$

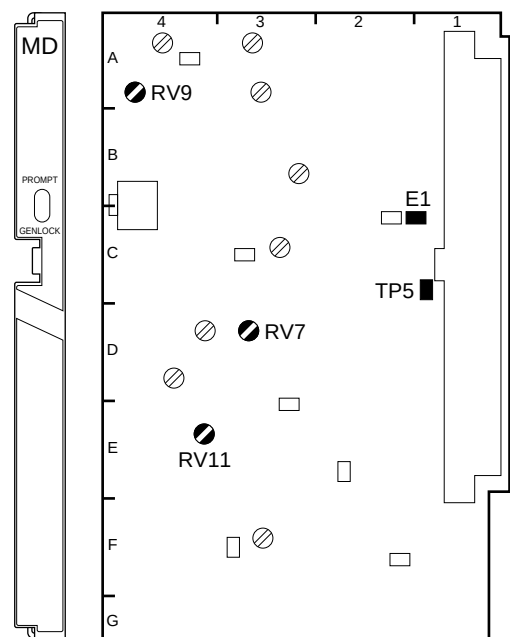


5-24-8. R-Y/B-Y Carrier Balance Adjustment

Equipment : Oscilloscope (LIMITER→ OFF)
Test Point : TP5 (GND:E1)/MD-103 (C-1)
Adjustment Points : ⚙RV7 (R-Y CAR BAL)/MD-103 (D-3)
 ⚙RV11 (B-Y CAR BAL)/MD-103 (E-4)

Adjustment Procedure :

Adjust ⚙RV7 and ⚙RV11 alternately so that the amplitude "A" is minimum.



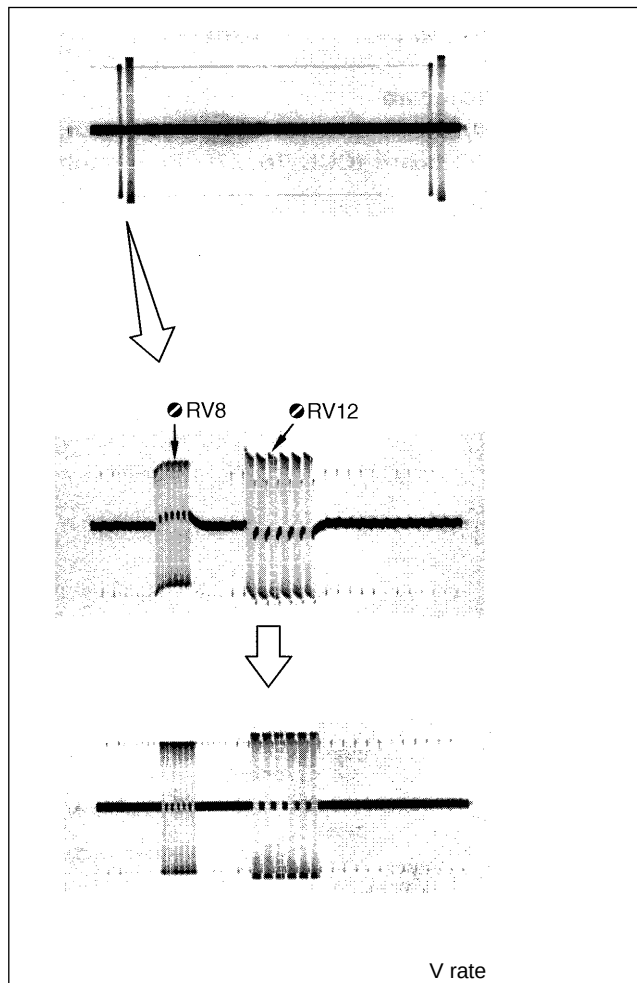
MD-103 BOARD (A SIDE)

5-24-9. R-Y/B-Y DC Balance Adjustment

Equipment : Oscilloscope (LIMITER→ OFF)
Test Point : TP5 (GND:E1)/MD-103 (C-1)
Adjustment Points : ⚙RV8 (R-Y DC BAL)/MD-103 (D-4)
 ⚙RV12 (B-Y DC BAL)/MD-103 (D-4)

Adjustment Procedure :

Adjust ⚙RV8 and ⚙RV12 alternately so that the V BLKG portions are flat.



5-24-10. R-Y/B-Y 90° Adjustment

Notes :

- This adjustment is necessary only when replacing FL5 on the MD-103 board.
- Use a plastic core driver to adjust ⚙FL.

Equipment : Digital voltmeter or Oscilloscope (DC mode)

Preparation :

- CCU-700/700P/700A/700AP setting
 Extend the DM-94 board of the CCU.

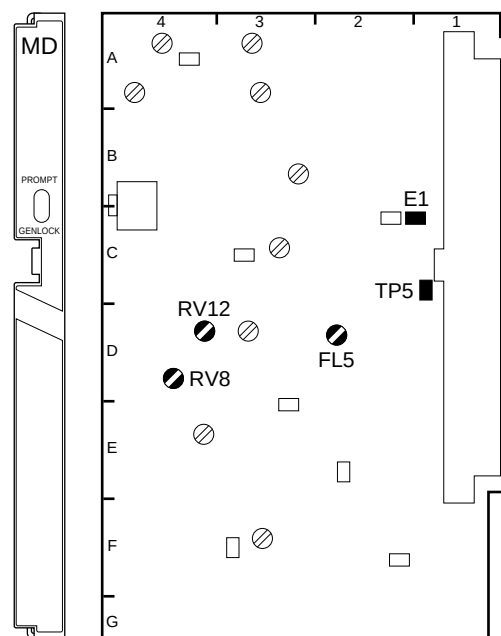
Test Point : TP14 (GND:E12)/DM-94 (K-5)

Adjustment Point : ⚙FL5/MD-103 (D-2)

Adjustment Procedure :

Adjust ⚙FL5 so that a negative absolute value of DC voltage is maximum.

The voltage changes slowly. When reading the value, allow for 2 or 3 seconds after turning ⚙FL5.



MD-103 BOARD (A SIDE)

5-24-11. 67.5 MHz TRAP Adjustment

Notes :

- This adjustment requires longer warm-up periods (10 to 30 minutes).
- This adjustment is necessary only when replacing FL3 on the MD-103 board.
- Use a plastic core driver to adjust FL.

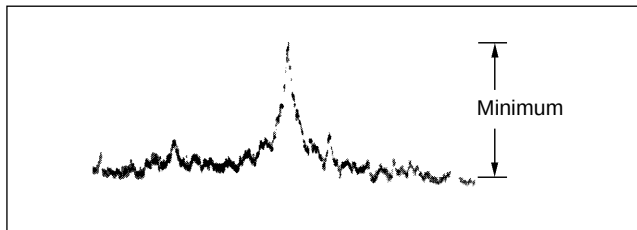
Equipment : Spectrum analyzer

Test Point : Pin 53 (GND:E1/MD-103)/
extension board
(extending MD-103)

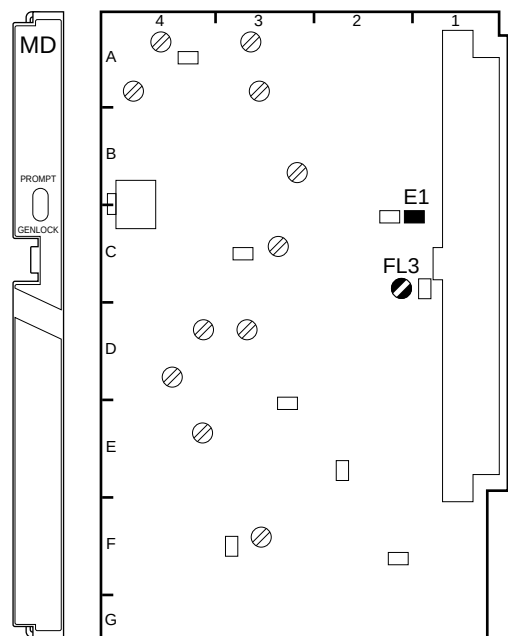
Adjustment Point : FL3 (67.5 MHz TRAP)/
MD-103 (C-2)

Adjustment Procedure :

Adjust FL3 so that the signal level around 67.5 MHz is minimum.



CENT FREQ 67.5 MHz
SPAN 2.0 MHz



MD-103 BOARD (A SIDE)

5-24-12. RETURN VIDEO Demodulation Adjustment

Notes :

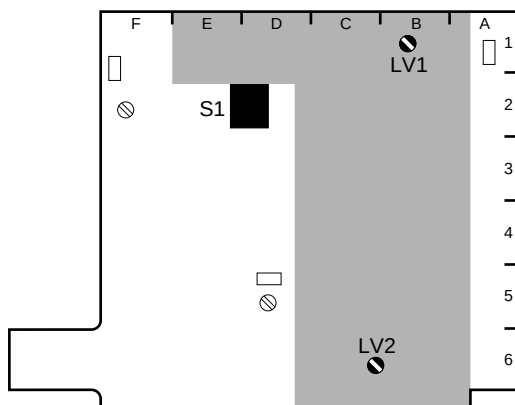
- Remove the CN-1232 board in advance referring to section 5-24 "Notes".
- This adjustment is necessary only when replacing the DM-98 board, or replacing LV1 or LV2 on the board.
- Use a plastic core driver to adjust LV.
- Use a TRIAX cable whose length is 300 to 1000 m for this adjustment.

Equipment : Waveform Monitor, Vectorscope
Video Signal Generator
(provides a 10-step signal with CHROMA signal)

Preparations :

- Set S1-1 to S1-4 /DM-98 (D-2) to all OFF.
- S650 (MONITOR SELECT) /IF-538 panel→RET
- Feed the 10-step signal from the video signal generator to the RET 1 IN connector on the CCU rear panel.

Test Point : MONITOR connector/
BVP-500/500P



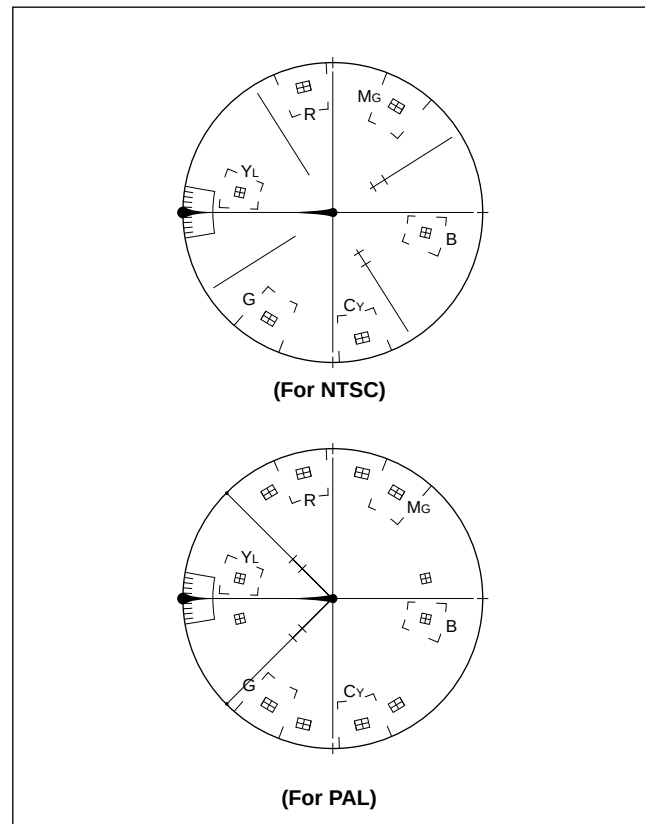
DM-98 BOARD (A SIDE)

Adjustment Points : LV1 (RET FREQ)/DM-98 (B-1)
LV2 (RET TUNE)/DM-98 (C-6)

Adjustment Procedures:

1. Temporarily adjust LV2 (C-6) so that the waveform appears observing the waveform monitor.
2. Adjust LV1 (B-1) so that the values of DG and DP are minimum observing the vectorscope.
3. Slightly turn LV2 so that they are further minimum.
4. Adjust LV1 and LV2 alternately until the specifications are satisfied.

Specifications : DG = $\pm 3\%$, DP = $\pm 3^\circ$



Resetting after Adjustment:

- S1-4/DM-98 → ON
- S650/IF-538 panel → VBS

5-24-13. RETURN VIDEO Level Adjustment

Notes :

- Remove the CN-1232 board in advance referring to section 5-24 “Notes”.
- This adjustment is necessary only when replacing the DM-98 board.
- Use a TRIAX cable whose length is 1000 m or less for this adjustment.

Equipment : Waveform monitor
 Video signal generator
 (provides a 10-step signal)

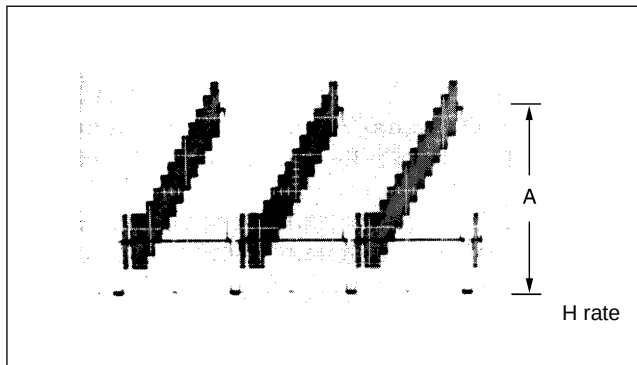
Preparations :

- Set S1-1 to S1-4/DM-98 (D-2) to all OFF.
- S650 (MONITOR SELECT)/IF-538 panel → RET
- Feed the 10-step signal from the video signal generator to the RET 1 IN connector on the CCU rear panel.

Test Point : MONITOR connector/
 BVP-500/500P

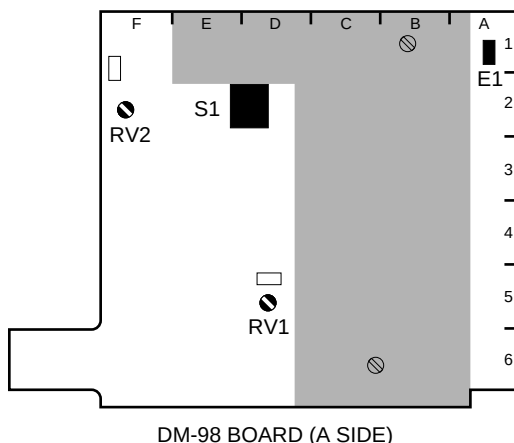
Adjustment Point : ⚙RV1 (RET LEVEL)/DM-98 (D-5)

Specifications : $A = 1.00 \pm 0.05$ Vp-p



Note :

- S1-4/DM-98 → ON
- S650/IF-538 panel → VBS



DM-98 BOARD (A SIDE)

BVP-500
 BVP-500P

5-24-14. PROMPT VIDEO Demodulation Adjustment

Notes :

- Remove the CN-1232 board in advance referring to section 5-24 “Notes”.
- This adjustment is necessary only when replacing LV1 on the DM-99 board.
- Use a TRIAX cable whose length is 500 m or more for this adjustment.
- Use a plastic core driver to adjust ⚙LV.

Equipment : Oscilloscope, Video signal generator
 (provides SWEEP and 10-step signals)

Preparations :

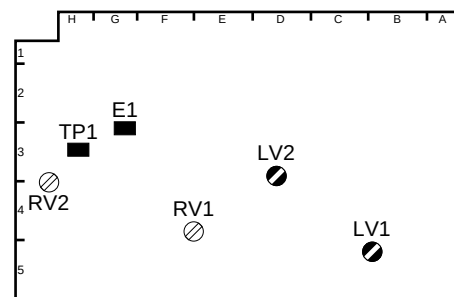
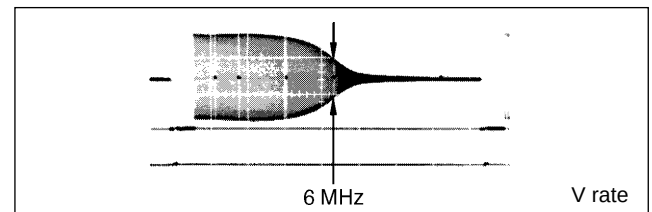
- CCU-700/700P/700A/700AP setting
 S1 (MODE AUTO/MANU)/DM-94 (P-1) → AUTO
 S5 (PROMPT POWER SELECT)/DM-94 (G-8) → TX
 S6 (PROMPT RF SELECT)/DM-94 (M-8) → TX
- Feed the SWEEP signal from the video signal generator to the PROMPTER connector on the CCU rear panel.

Test Point : PROMPT connector/BVP-500/500P

Adjustment Points : ⚙LV1 (PROMPT FREQ) /
 DM-99 (C-5)
 ⚙LV2 (PROMPT TUNE) /
 DM-99 (D-3)

Adjustment Procedures:

1. Temporarily adjust ⚙LV2 (D-3) so that the waveform appears observing the oscilloscope.
2. Adjust ⚙LV1 (C-5) so that the gain level around 6 MHz is minimum.

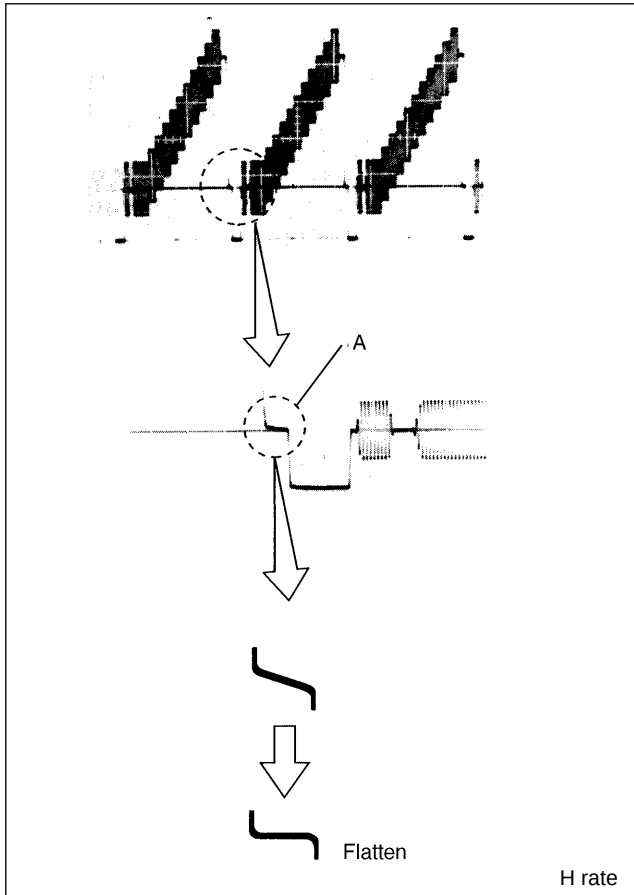


DM-99 BOARD (A SIDE)

3. Change the output signal from the video signal generator to the 10-step signal.
4. Adjust $\odot$ LV2 so that the portion A is flat.

Note

If the specifications are not satisfied, after performing Section 5-24-15. "PROMPT VIDEO RF AGC Adjustment", perform this adjustment again.



Resetting after Adjustment:

- S1, S5, S6/DM-94 →customer-set position

5-24-15. PROMPT VIDEO RF AGC Adjustment

Notes :

- Remove the CN-1232 board in advance referring to section 5-24 "Notes".
- Use a TRIAX cable whose length is 50 m or 150 m for this adjustment.

Equipment : Oscilloscope, Video signal generator (provides a 10-step signal)

Preparations :

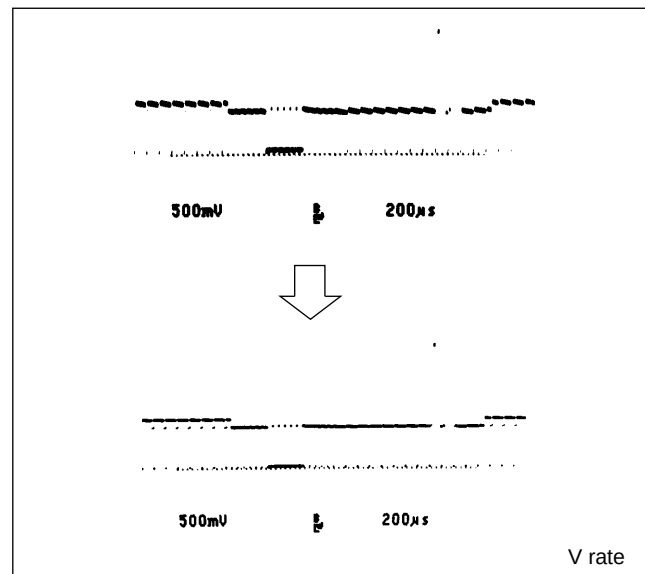
- CCU-700/700P/700A/700AP setting
 S1 (MODE AUTO/MANU)/DM-94 (P-1) →MANU
 S2 (CABLE LENGTH)/DM-94 (P-1)→ 1
 S5 (PROMPT POWER SELECT)/DM-94 (G-8) →TX
 S6 (PROMPT RF SELECT)/DM-94 (M-8) →TX
- Feed the 10-step signal from the video signal generator to the PROMPTER connector on the CCU rear panel.

Test Point : TP1/DM-99 (H-3)

Adjustment Point : $\odot$ RV1 (RF AGC DLY) /DM-99 (E-5)

Adjustment Procedures:

1. Turn $\odot$ RV1 fully clockwise.
2. Slowly turn $\odot$ RV1(E-5) counterclockwise and stop it at the point where the SYNC level becomes maximum and does not sag, observing the waveform at TP1. Do not turn $\odot$ RV1 too much.



Resetting after Adjustment:

- S1, S2, S5, S6/DM-94 →customer-set position

5-24-16. PROMPT VIDEO Level Adjustment

Notes :

- Remove the CN-1232 board in advance referring to section 5-24 “Notes”.
- This adjustment is necessary only when replacing the DM-99 board.
- Use a TRIAX cable whose length is 500 m or more for this adjustment.

Equipment : Waveform monitor, Video signal generator (provides a 10-step signal)

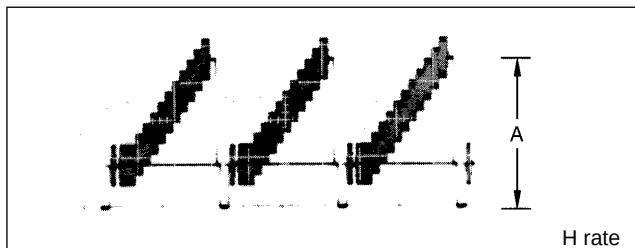
Preparations:

- CCU-700/700P/700A/700AP setting
S1 (MODE AUTO/MANU)/DM-94 (P-1) →AUTO
S5 (PROMPT POWER SELECT)/DM-94 (G-8) →TX
S6 (PROMPT RF SELECT)/DM-94 (M-8) →TX
- Feed the 10-step signal from the video signal generator to the PROMPTER connector on the CCU rear panel.

Test Point : PROMPT connector/BVP-500/500P

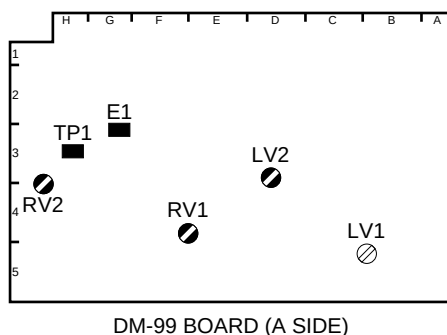
Adjustment Points : RV2 (PROMPT LEVEL) /
DM-99 (G-3)

Specifications : $A = 1.00 \pm 0.05 \text{ V}_{p-p}$



Resetting after Adjustment:

- S1, S5, S6/DM-94 →customer-set position



CAUTION

Danger of explosion if battery is incorrectly replaced.

Replace only with the same or equivalent type recommended by the manufacturer.
Dispose of used batteries according to the manufacturer's instructions.

Vorsicht!

Explosionsgefahr bei unsachgemäßem Austausch der Batterie.

Ersatz nur durch denselben oder einen vom Hersteller empfohlenen ähnlichen Typ.
Entsorgung gebrauchter Batterien nach Angaben des Herstellers.

ATTENTION

Il y a danger d'explosion s'il y a remplacement incorrect de la batterie.

Remplacer uniquement avec une batterie du même type ou d'un type équivalent recommandé par le constructeur.
Mettre au rebut les batteries usagées conformément aux instructions du fabricant.

ADVARSEL!

Lithiumbatteri-Eksplosionsfare ved fejlagtig håndtering.
Udskiftning må kun ske med batteri af samme fabrikat og type.
Levér det brugte batteri tilbage til leverandøren.

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BVP-500 (UC)
BVP-500P (CE) E
3-190-370-02 Volume 1

Sony Corporation
Broadcast Products Company

Printed in U.S.A.
1996. 7 76
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SCREWS AND WASHERS

Part No.	SP	Description
7-621-772-38	s	SCREW +B 2X6
7-623-923-01	s	WASHER 2.6, NYLON
7-623-928-01	s	WASHER 8.0, NYLON
7-624-106-04	s	STOP RING 3.0, TYPE -E
7-624-209-00	s	O RING, P-5
7-627-553-37	s	SCREW,PRECISION +P 2X3
7-627-553-47	s	SCREW,PRECISION +P 2X4
7-627-556-58	s	SCREW +P 2.6X5
7-671-115-01	s	BALL, STEEL
7-682-245-04	s	SCREW +K 3X4
7-682-247-04	s	SCREW +K 3X6
7-682-544-04	s	SCREW +B 3X3
7-682-545-04	s	SCREW +B 3X4
7-682-548-04	s	SCREW +B 3X8
7-682-549-09	s	SCREW +B 3X10
7-682-552-09	s	SCREW +B 3X16
7-682-562-04	s	SCREW +B 4X10
7-682-903-11	s	SCREW +PMH 3X6
7-682-961-01	s	SCREW +PSW 4X8
7-685-534-14	s	SCREW +BTP 2.6X8 TYPE2 N-S
7-688-003-11	s	W 3, MIDDLE
7-688-004-11	s	W 4, MIDDLE

1-3. Electrical Parts

AT-95 BOARD

Ref. No. or Q'ty	Part No.	SP	Description
1pc	A-8272-562-A	o	MOUNTED CIRCUIT BOARD, AT-95
1pc	3-692-126-02	o	PANEL, AT-95 PC BOARD
1pc	3-724-753-01	o	RING
6pcs	3-729-061-01	s	SCREW (M2X4.5) (TYPE 1)
BT1	1-550-104-32	s	HOLDER, BATTERY
C1	1-162-927-11	s	CERAMIC, CHIP 100PF 5% 50V
C2	1-162-964-11	s	CERAMIC 0.001uF 10% 50V
C3	1-164-156-11	s	CERAMIC 0.1uF 25V
C4	1-164-156-11	s	CERAMIC 0.1uF 25V
C5	1-107-688-11	s	CHIP, TANTALUM 1.5uF 20% 25V
C6	1-164-156-11	s	CERAMIC 0.1uF 25V
C7	1-107-688-11	s	CHIP, TANTALUM 1.5uF 20% 25V
C8	1-126-392-11	s	ELECT, CHIP 100uF 20% 6.3V
C9	1-164-156-11	s	CERAMIC 0.1uF 25V
C10	1-164-156-11	s	CERAMIC 0.1uF 25V
C11	1-164-156-11	s	CERAMIC 0.1uF 25V
C12	1-135-165-11	s	TANTALUM, CHIP 33uF 10% 16V
C13	1-135-165-11	s	TANTALUM, CHIP 33uF 10% 16V
C14	1-164-156-11	s	CERAMIC 0.1uF 25V
C15	1-104-905-11	s	DOUBLE LAYERS, 0.22F 5.5V
C16	1-164-156-11	s	CERAMIC 0.1uF 25V
C17	1-135-215-21	s	TANTALUM, CHIP 6.8uF 20% 16V
C18	1-164-156-11	s	CERAMIC 0.1uF 25V
C19	1-126-392-11	s	ELECT, CHIP 100uF 20% 6.3V
C20	1-164-156-11	s	CERAMIC 0.1uF 25V
C21	1-162-927-11	s	CERAMIC, CHIP 100PF 5% 50V
C22	1-164-156-11	s	CERAMIC 0.1uF 25V
C23	1-164-156-11	s	CERAMIC 0.1uF 25V
C24	1-164-156-11	s	CERAMIC 0.1uF 25V
C25	1-164-156-11	s	CERAMIC 0.1uF 25V
C26	1-162-970-11	s	CERAMIC, CHIP 0.01uF 10% 25V
C27	1-164-156-11	s	CERAMIC 0.1uF 25V
C28	1-162-970-11	s	CERAMIC, CHIP 0.01uF 10% 25V
C29	1-164-156-11	s	CERAMIC 0.1uF 25V
C30	1-164-156-11	s	CERAMIC 0.1uF 25V
C31	1-135-180-21	s	TANTALUM, CHIP 3.3uF 20% 6.3V
C32	1-162-966-11	s	CERAMIC, CHIP 0.0022uF 10% 50V
C33	1-162-970-11	s	CERAMIC, CHIP 0.01uF 10% 25V
C34	1-135-076-21	s	TANTALUM, CHIP 1uF 10% 35V
C35	1-162-970-11	s	CERAMIC, CHIP 0.01uF 10% 25V
C36	1-162-970-11	s	CERAMIC, CHIP 0.01uF 10% 25V
C37	1-164-156-11	s	CERAMIC 0.1uF 25V
C38	1-164-156-11	s	CERAMIC 0.1uF 25V
C39	1-162-970-11	s	CERAMIC, CHIP 0.01uF 10% 25V
C40	1-135-085-21	s	TANTALUM, CHIP 4.7uF 10% 25V
C41	1-162-970-11	s	CERAMIC, CHIP 0.01uF 10% 25V
C42	1-162-964-11	s	CERAMIC 0.001uF 10% 50V
C43	1-164-156-11	s	CERAMIC 0.1uF 25V
C44	1-164-156-11	s	CERAMIC 0.1uF 25V
C45	1-164-156-11	s	CERAMIC 0.1uF 25V
C46	1-164-156-11	s	CERAMIC 0.1uF 25V
C47	1-164-156-11	s	CERAMIC 0.1uF 25V
C48	1-135-215-21	s	TANTALUM, CHIP 6.8uF 20% 16V
C49	1-164-156-11	s	CERAMIC 0.1uF 25V
C50	1-135-157-21	s	TANTAL 10uF 10% 6.3V
C51	1-164-156-11	s	CERAMIC 0.1uF 25V
C52	1-164-156-11	s	CERAMIC 0.1uF 25V
C53	1-164-156-11	s	CERAMIC 0.1uF 25V

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Ref. No. or Q'ty	Part No.	SP	Description
C54	1-164-156-11	s	CERAMIC 0.1uF 25V
C55	1-164-156-11	s	CERAMIC 0.1uF 25V
C56	1-164-156-11	s	CERAMIC 0.1uF 25V
C57	1-164-156-11	s	CERAMIC 0.1uF 25V
C58	1-164-156-11	s	CERAMIC 0.1uF 25V
C59	1-162-970-11	s	CERAMIC, CHIP 0.01uF 10% 25V
C60	1-162-970-11	s	CERAMIC, CHIP 0.01uF 10% 25V
C61	1-164-156-11	s	CERAMIC 0.1uF 25V
C62	1-164-156-11	s	CERAMIC 0.1uF 25V
C63	1-164-156-11	s	CERAMIC 0.1uF 25V
C64	1-164-156-11	s	CERAMIC 0.1uF 25V
C65	1-164-156-11	s	CERAMIC 0.1uF 25V
C66	1-162-927-11	s	CERAMIC, CHIP 100PF 5% 50V
C67	1-162-927-11	s	CERAMIC, CHIP 100PF 5% 50V
C68	1-162-927-11	s	CERAMIC, CHIP 100PF 5% 50V
C69	1-162-927-11	s	CERAMIC, CHIP 100PF 5% 50V
C70	1-162-927-11	s	CERAMIC, CHIP 100PF 5% 50V
C71	1-131-360-00	s	TANTALUM 15uF 10% 10V
C80	1-164-156-11	s	CERAMIC 0.1uF 25V
C81	1-126-925-11	s	ELECT 470uF 20% 10V
CNI36	1-540-197-11	o	SOCKET, IC
D1	8-719-029-63	s	DIODE RD4.3UH-T1
D2	8-719-820-41	s	DIODE 1SS302
D3	8-719-974-76	s	DIODE HSM107S
D4	8-719-974-76	s	DIODE HSM107S
D5	8-719-820-41	s	DIODE 1SS302
D6	8-719-974-76	s	DIODE HSM107S
D7	8-719-974-76	s	DIODE HSM107S
D8	8-719-974-76	s	DIODE HSM107S
D10	8-719-974-76	s	DIODE HSM107S
D11	8-719-974-76	s	DIODE HSM107S
D12	8-719-974-76	s	DIODE HSM107S
D13	8-719-974-76	s	DIODE HSM107S
D15	8-719-974-76	s	DIODE HSM107S
D16	8-719-820-41	s	DIODE 1SS302
D17	8-719-820-41	s	DIODE 1SS302
D18	8-719-820-41	s	DIODE 1SS302
D19	8-719-820-41	s	DIODE 1SS302
D20	8-719-820-41	s	DIODE 1SS302
D21	8-719-820-41	s	DIODE 1SS302
D22	8-719-820-41	s	DIODE 1SS302
IC1	8-759-252-59	s	IC MAX202CSE
IC2	8-759-242-78	s	IC TC7W02F
IC3	8-759-079-74	s	IC TC74VHC157FS(EL)
IC4	8-759-076-06	s	IC TL064CPW
IC5	8-759-076-06	s	IC TL064CPW
IC6	8-759-637-07	s	IC M62021FP
IC7	8-759-089-61	s	IC TC74HC4052AFS(EL)
IC8	8-759-082-60	s	IC TC7S66FU
IC9	8-759-076-06	s	IC TL064CPW
IC11	8-759-711-50	s	IC NJU7022M
IC12	8-759-711-50	s	IC NJU7022M
IC13	8-759-059-50	s	IC MB88351PFV
IC14	8-759-082-57	s	IC TC7W04FU
IC15	8-759-083-94	s	IC TC7W74FU
IC17	8-759-058-64	s	IC TC7S32FU(TE85R)
IC18	8-759-271-84	s	IC TC7SH02FU
IC19	8-759-271-86	s	IC TC7SH04FU

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Ref. No. or Q'ty	Part No.	SP Description
IC20	8-759-196-96	s IC TC7SH08FU-TE85R
IC21	8-759-271-84	s IC TC7SH02FU
IC22	8-759-196-97	s IC TC7SH32FU-TE85R
IC23	8-759-186-31	s IC TC74VHC20F
IC24	8-759-079-70	s IC TC74VHC138FS(EL)
IC25	8-759-065-20	s IC RTC-4553B
IC26	8-752-337-91	s IC CXK58257ATM-70LL
IC27	8-759-154-60	s IC UPD71055GB-10-3B4
IC28	8-759-154-60	s IC UPD71055GB-10-3B4
IC29	8-759-149-10	s IC UPD4702G
IC30	8-759-271-84	s IC TC7SH02FU
IC31	8-759-196-97	s IC TC7SH32FU-TE85R
IC32	8-759-242-78	s IC TC7W02F
IC33	8-759-186-53	s IC TC74VHC163F
IC34	8-759-186-53	s IC TC74VHC163F
IC35	8-759-277-99	s IC CXD8889R
IC36		IC PENDING
IC37	8-759-196-96	s IC TC7SH08FU-TE85R
IC38	8-759-182-95	s IC HD151015T
IC39	8-759-079-85	s IC TC74VHC244FS(EL)
IC40	8-759-079-61	s IC TC74VHC74FS(EL)
IC41	8-759-195-81	s IC TC7S86FU
IC42	8-759-186-53	s IC TC74VHC163F
IC43	8-759-082-57	s IC TC7W04FU
IC44	8-759-186-53	s IC TC74VHC163F
IC45	8-759-083-94	s IC TC7W74FU
IC46	8-759-165-37	s IC X24164SIC7000
IC47	8-759-078-75	s IC UPD6453GT-610
IC48	8-759-276-00	s IC TC7W139FU(TE12R)
L1	1-410-737-31	s INDUCTOR CHIP 0.47uH
L2	1-410-377-31	s INDUCTOR CHIP 4.7uH
Q1	8-729-141-48	s TRANSISTOR 2SB624-BV345
Q2	8-729-402-19	s TRANSISTOR XN6501
Q3	8-729-920-48	s TRANSISTOR IMH2
Q4	8-729-925-47	s TRANSISTOR IMB2
Q5	8-729-920-48	s TRANSISTOR IMH2
Q6	8-729-920-48	s TRANSISTOR IMH2
R1	1-216-794-11	s METAL, CHIP 5.6 5% 1/16W
R2	1-216-833-11	s METAL, CHIP 10K 5% 1/16W
R3	1-216-831-11	s METAL, CHIP 6.8K 5% 1/16W
R4	1-216-809-11	s METAL, CHIP 100 5% 1/16W
R5	1-216-809-11	s METAL, CHIP 100 5% 1/16W
R6	1-216-821-11	s METAL, CHIP 1K 5% 1/16W
R7	1-216-809-11	s METAL, CHIP 100 5% 1/16W
R8	1-216-829-11	s METAL, CHIP 4.7K 5% 1/16W
R9	1-216-833-11	s METAL, CHIP 10K 5% 1/16W
R10	1-216-837-11	s METAL, CHIP 22K 5% 1/16W
R11	1-216-845-11	s METAL, CHIP 100K 5% 1/16W
R12	1-216-794-11	s METAL, CHIP 5.6 5% 1/16W
R13	1-216-864-11	s METAL, CHIP 0 5% 1/16W
R14	1-216-821-11	s METAL, CHIP 1K 5% 1/16W
R15	1-216-864-11	s METAL, CHIP 0 5% 1/16W
R16	1-216-809-11	s METAL, CHIP 100 5% 1/16W
R17	1-216-858-11	s METAL, CHIP 1.2M 5% 1/16W
R18	1-218-723-11	s METAL 20K 0.50% 1/16W
R19	1-218-692-11	s CHIP, METAL 1K 0.50% 1/16W
R20	1-216-809-11	s METAL, CHIP 100 5% 1/16W

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Ref. No. or Q'ty	Part No.	SP Description
R21	1-218-668-11	s CHIP, METAL 100 0.50% 1/16W
R22	1-218-724-11	s CHIP, METAL 22K 5% 1/16W
R23	1-216-794-11	s METAL, CHIP 5.6 5% 1/16W
R25	1-216-821-11	s METAL, CHIP 1K 5% 1/16W
R26	1-216-809-11	s METAL, CHIP 100 5% 1/16W
R28	1-218-889-11	s CHIP, METAL 56K 0.50% 1/16W
R29	1-216-857-11	s METAL, CHIP 1M 5% 1/16W
R30	1-218-858-11	s CHIP, METAL 3K 0.50% 1/16W
R31	1-218-720-11	s METAL 15K 0.50% 1/16W
R32	1-216-839-11	s METAL, CHIP 33K 5% 1/16W
R33	1-216-862-11	s METAL 2.7M 5% 1/16W
R34	1-216-857-11	s METAL, CHIP 1M 5% 1/16W
R35	1-216-857-11	s METAL, CHIP 1M 5% 1/16W
R36	1-216-857-11	s METAL, CHIP 1M 5% 1/16W
R37	1-216-863-11	s METAL 3.3M 5% 1/16W
R38	1-216-857-11	s METAL, CHIP 1M 5% 1/16W
R39	1-216-857-11	s METAL, CHIP 1M 5% 1/16W
R40	1-218-716-11	s METAL 10K 0.50% 1/16W
R41	1-218-724-11	s CHIP, METAL 22K 5% 1/16W
R42	1-216-819-11	s METAL, CHIP 680 5% 1/16W
R43	1-216-821-11	s METAL, CHIP 1K 5% 1/16W
R44	1-218-707-11	s CHIP, METAL 4.3K 0.50% 1/16W
R45	1-216-825-11	s METAL, CHIP 2.2K 5% 1/16W
R46	1-216-821-11	s METAL, CHIP 1K 5% 1/16W
R47	1-218-716-11	s METAL 10K 0.50% 1/16W
R48	1-218-873-11	s CHIP, METAL 12K 0.50% 1/16W
R49	1-218-716-11	s METAL 10K 0.50% 1/16W
R50	1-218-724-11	s CHIP, METAL 22K 5% 1/16W
R51	1-216-821-11	s METAL, CHIP 1K 5% 1/16W
R52	1-216-821-11	s METAL, CHIP 1K 5% 1/16W
R53	1-216-809-11	s METAL, CHIP 100 5% 1/16W
R54	1-216-836-11	s METAL, CHIP 18K 5% 1/16W
R55	1-218-867-11	s CHIP, METAL 6.8K 0.50% 1/16W
R56	1-216-824-11	s METAL, CHIP 1.8K 5% 1/16W
R57	1-218-716-11	s METAL 10K 0.50% 1/16W
R58	1-218-873-11	s CHIP, METAL 12K 0.50% 1/16W
R59	1-216-820-11	s METAL, CHIP 820 5% 1/16W
R60	1-216-855-11	s METAL, CHIP 680K 5% 1/16W
R61	1-216-854-11	s METAL, CHIP 560K 5% 1/16W
R62	1-218-752-11	s METAL 330K 0.50% 1/16W
R63	1-216-854-11	s METAL, CHIP 560K 5% 1/16W
R64	1-218-750-11	s METAL 270K 0.50% 1/16W
R66	1-216-821-11	s METAL, CHIP 1K 5% 1/16W
R70	1-216-857-11	s METAL, CHIP 1M 5% 1/16W
R71	1-216-829-11	s METAL, CHIP 4.7K 5% 1/16W
R72	1-216-821-11	s METAL, CHIP 1K 5% 1/16W
R73	1-216-829-11	s METAL, CHIP 4.7K 5% 1/16W
R74	1-216-829-11	s METAL, CHIP 4.7K 5% 1/16W
R75	1-216-829-11	s METAL, CHIP 4.7K 5% 1/16W
R76	1-216-809-11	s METAL, CHIP 100 5% 1/16W
R77	1-216-809-11	s METAL, CHIP 100 5% 1/16W
R78	1-216-797-11	s METAL, CHIP 10 5% 1/16W
R79	1-216-828-11	s METAL, CHIP 3.9K 5% 1/16W
R80	1-216-797-11	s METAL, CHIP 10 5% 1/16W
R81	1-216-797-11	s METAL, CHIP 10 5% 1/16W
R82	1-218-866-11	s CHIP, METAL 6.2K 0.50% 1/16W
R83	1-216-797-11	s METAL, CHIP 10 5% 1/16W
R84	1-216-797-11	s METAL, CHIP 10 5% 1/16W
R85	1-216-797-11	s METAL, CHIP 10 5% 1/16W

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Ref. No. or Q'ty	Part No.	SP	Description
R86	1-216-797-11	s	METAL, CHIP 10 5% 1/16W
R87	1-216-797-11	s	METAL, CHIP 10 5% 1/16W
R88	1-216-797-11	s	METAL, CHIP 10 5% 1/16W
R89	1-216-841-11	s	METAL, CHIP 47K 5% 1/16W
R90	1-216-841-11	s	METAL, CHIP 47K 5% 1/16W
R91	1-216-797-11	s	METAL, CHIP 10 5% 1/16W
R92	1-216-797-11	s	METAL, CHIP 10 5% 1/16W
R93	1-216-797-11	s	METAL, CHIP 10 5% 1/16W
R94	1-216-797-11	s	METAL, CHIP 10 5% 1/16W
R95	1-216-797-11	s	METAL, CHIP 10 5% 1/16W
R96	1-216-797-11	s	METAL, CHIP 10 5% 1/16W
R97	1-216-845-11	s	METAL, CHIP 100K 5% 1/16W
R98	1-216-845-11	s	METAL, CHIP 100K 5% 1/16W
R99	1-216-845-11	s	METAL, CHIP 100K 5% 1/16W
R100	1-216-833-11	s	METAL, CHIP 10K 5% 1/16W
R101	1-216-833-11	s	METAL, CHIP 10K 5% 1/16W
R102	1-216-821-11	s	METAL, CHIP 1K 5% 1/16W
R103	1-216-821-11	s	METAL, CHIP 1K 5% 1/16W
R104	1-216-845-11	s	METAL, CHIP 100K 5% 1/16W
R105	1-216-809-11	s	METAL, CHIP 100 5% 1/16W
R106	1-216-849-11	s	METAL, CHIP 220K 5% 1/16W
R107	1-216-841-11	s	METAL, CHIP 47K 5% 1/16W
R108	1-216-841-11	s	METAL, CHIP 47K 5% 1/16W
R109	1-216-841-11	s	METAL, CHIP 47K 5% 1/16W
R110	1-216-825-11	s	METAL, CHIP 2.2K 5% 1/16W
R111	1-216-825-11	s	METAL, CHIP 2.2K 5% 1/16W
R114	1-216-825-11	s	METAL, CHIP 2.2K 5% 1/16W
R115	1-216-825-11	s	METAL, CHIP 2.2K 5% 1/16W
R118	1-216-809-11	s	METAL, CHIP 100 5% 1/16W
R119	1-216-809-11	s	METAL, CHIP 100 5% 1/16W
R120	1-216-809-11	s	METAL, CHIP 100 5% 1/16W
R121	1-216-809-11	s	METAL, CHIP 100 5% 1/16W
R122	1-216-809-11	s	METAL, CHIP 100 5% 1/16W
R123	1-216-821-11	s	METAL, CHIP 1K 5% 1/16W
R124	1-216-821-11	s	METAL, CHIP 1K 5% 1/16W
R125	1-216-821-11	s	METAL, CHIP 1K 5% 1/16W
R126	1-216-821-11	s	METAL, CHIP 1K 5% 1/16W
R127	1-216-809-11	s	METAL, CHIP 100 5% 1/16W
R128	1-216-809-11	s	METAL, CHIP 100 5% 1/16W
R129	1-216-809-11	s	METAL, CHIP 100 5% 1/16W
R130	1-216-845-11	s	METAL, CHIP 100K 5% 1/16W
R131	1-216-845-11	s	METAL, CHIP 100K 5% 1/16W
R132	1-216-841-11	s	METAL, CHIP 47K 5% 1/16W
R133	1-216-841-11	s	METAL, CHIP 47K 5% 1/16W
R134	1-216-833-11	s	METAL, CHIP 10K 5% 1/16W
R135	1-216-841-11	s	METAL, CHIP 47K 5% 1/16W
R136	1-216-841-11	s	METAL, CHIP 47K 5% 1/16W
R137	1-216-821-11	s	METAL, CHIP 1K 5% 1/16W
R138	1-216-809-11	s	METAL, CHIP 100 5% 1/16W
R139	1-216-821-11	s	METAL, CHIP 1K 5% 1/16W
R140	1-216-821-11	s	METAL, CHIP 1K 5% 1/16W
R141	1-216-821-11	s	METAL, CHIP 1K 5% 1/16W
R142	1-216-821-11	s	METAL, CHIP 1K 5% 1/16W
R143	1-216-821-11	s	METAL, CHIP 1K 5% 1/16W
R144	1-216-841-11	s	METAL, CHIP 47K 5% 1/16W
R145	1-216-809-11	s	METAL, CHIP 100 5% 1/16W
R146	1-216-845-11	s	METAL, CHIP 100K 5% 1/16W
R147	1-216-845-11	s	METAL, CHIP 100K 5% 1/16W
R148	1-216-845-11	s	METAL, CHIP 100K 5% 1/16W

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Ref. No. or Q'ty	Part No.	SP	Description
R149	1-216-845-11	s	METAL, CHIP 100K 5% 1/16W
R150	1-216-809-11	s	METAL, CHIP 100 5% 1/16W
R151	1-216-821-11	s	METAL, CHIP 1K 5% 1/16W
R152	1-216-841-11	s	METAL, CHIP 47K 5% 1/16W
R153	1-216-845-11	s	METAL, CHIP 100K 5% 1/16W
R154	1-216-833-11	s	METAL, CHIP 10K 5% 1/16W
R155	1-216-845-11	s	METAL, CHIP 100K 5% 1/16W
R160	1-216-821-11	s	METAL, CHIP 1K 5% 1/16W
R161	1-216-862-11	s	METAL 2.7M 5% 1/16W
R162	1-216-864-11	s	METAL, CHIP 0 5% 1/16W
R163	1-216-864-11	s	METAL, CHIP 0 5% 1/16W
R164	1-218-751-11	s	METAL, CHIP 300K 0.50% 1/16
R165	1-218-858-11	s	CHIP, METAL 3K 0.50% 1/16W
RV1	1-237-035-11	s	RES, ADJ METAL 5K
S1	1-692-270-21	s	SWITCH, SLIDE

 AU-211 BOARD

Ref. No. or Q'ty	Part No.	SP Description
1pc	A-8272-584-A	o MOUNTED CIRCUIT BOARD, AU-211
1pc	3-692-162-02	o PANEL,AU-211 PC BOARD
1pc	3-724-753-01	o RING
6pcs	3-729-061-01	s SCREW (M2X4.5) (TYPE 1)
C2	1-128-594-11	s ELECT, NONPOLAR 1uF 20% 50V
C3	1-128-594-11	s ELECT, NONPOLAR 1uF 20% 50V
C4	1-162-959-11	s CERAMIC 330PF 5% 50V
C5	1-162-959-11	s CERAMIC 330PF 5% 50V
C6	1-128-453-21	s ELECT 47uF 20% 6.3V
C7	1-135-179-21	s TANTAL 2.2uF 10% 16V
C8	1-164-156-11	s CERAMIC 0.1uF 25V
C9	1-128-594-11	s ELECT, NONPOLAR 1uF 20% 50V
C10	1-128-594-11	s ELECT, NONPOLAR 1uF 20% 50V
C13	1-128-403-11	s ELECT 47uF 20% 35V
C14	1-104-601-11	s ELECT 10uF 20% 10V
C15	1-104-601-11	s ELECT 10uF 20% 10V
C17	1-128-593-11	s ELECT(NONPOLAR) 0.47uF 20% 50V
C18	1-128-593-11	s ELECT(NONPOLAR) 0.47uF 20% 50V
C19	1-135-149-21	s TANTALUM, CHIP 2.2uF 10% 10V
C20	1-135-149-21	s TANTALUM, CHIP 2.2uF 10% 10V
C21	1-135-149-21	s TANTALUM, CHIP 2.2uF 10% 10V
C22	1-135-149-21	s TANTALUM, CHIP 2.2uF 10% 10V
C23	1-162-927-11	s CERAMIC, CHIP 100PF 5% 50V
C24	1-128-594-11	s ELECT, NONPOLAR 1uF 20% 50V
C25	1-135-227-11	s TANTAL 100uF 10% 6.3V
C26	1-128-394-11	s ELECT 220uF 20% 10V
C27	1-162-924-11	s CERAMIC 56PF 5% 50V
C32	1-164-156-11	s CERAMIC 0.1uF 25V
C33	1-135-138-11	s TANTALUM, CHIP 10uF 20% 25V
C34	1-135-138-11	s TANTALUM, CHIP 10uF 20% 25V
C35	1-164-156-11	s CERAMIC 0.1uF 25V
C36	1-135-140-11	s TANTAL 15uF 10% 20V
C37	1-135-140-11	s TANTAL 15uF 10% 20V
C38	1-135-140-11	s TANTAL 15uF 10% 20V
C39	1-135-140-11	s TANTAL 15uF 10% 20V
C40	1-128-592-11	s ELECT 0.33uF 20% 50V
C41	1-128-592-11	s ELECT 0.33uF 20% 50V
C42	1-135-157-21	s TANTAL 10uF 10% 6.3V
C43	1-135-157-21	s TANTAL 10uF 10% 6.3V
C44	1-135-157-21	s TANTAL 10uF 10% 6.3V
C45	1-164-156-11	s CERAMIC 0.1uF 25V
C46	1-164-156-11	s CERAMIC 0.1uF 25V
C47	1-164-156-11	s CERAMIC 0.1uF 25V
C48	1-162-927-11	s CERAMIC, CHIP 100PF 5% 50V
C49	1-164-156-11	s CERAMIC 0.1uF 25V
C50	1-162-927-11	s CERAMIC, CHIP 100PF 5% 50V
C51	1-164-156-11	s CERAMIC 0.1uF 25V
C52	1-128-453-21	s ELECT 47uF 20% 6.3V
C53	1-162-927-11	s CERAMIC, CHIP 100PF 5% 50V
C54	1-162-928-11	s CERAMIC 120PF 5% 50V
C55	1-135-177-21	s TANTALUM, CHIP 1uF 10% 25V
C56	1-135-166-21	s TANTALUM, CHIP 47uF 10% 10V
C57	1-126-404-11	s CHIP,ELECT 4.7uF 20% 50V
C58	1-162-970-11	s CERAMIC, CHIP 0.01uF 10% 25V
C61	1-126-404-11	s CHIP,ELECT 4.7uF 20% 50V
C62	1-162-970-11	s CERAMIC, CHIP 0.01uF 10% 25V
C63	1-135-179-21	s TANTAL 2.2uF 10% 16V
C64	1-128-592-11	s ELECT 0.33uF 20% 50V
C66	1-128-592-11	s ELECT 0.33uF 20% 50V

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Ref. No. or Q'ty	Part No.	SP Description
C68	1-135-157-21	s TANTAL 10uF 10% 6.3V
C69	1-164-156-11	s CERAMIC 0.1uF 25V
C70	1-162-927-11	s CERAMIC, CHIP 100PF 5% 50V
C71	1-164-156-11	s CERAMIC 0.1uF 25V
C72	1-164-156-11	s CERAMIC 0.1uF 25V
C73	1-164-156-11	s CERAMIC 0.1uF 25V
C74	1-162-927-11	s CERAMIC, CHIP 100PF 5% 50V
C75	1-164-156-11	s CERAMIC 0.1uF 25V
C76	1-128-453-21	s ELECT 47uF 20% 6.3V
C77	1-162-927-11	s CERAMIC, CHIP 100PF 5% 50V
C78	1-162-928-11	s CERAMIC 120PF 5% 50V
C79	1-135-177-21	s TANTALUM, CHIP 1uF 10% 25V
C80	1-135-166-21	s TANTALUM, CHIP 47uF 10% 10V
C81	1-164-156-11	s CERAMIC 0.1uF 25V
C82	1-162-959-11	s CERAMIC 330PF 5% 50V
C83	1-164-156-11	s CERAMIC 0.1uF 25V
C84	1-164-156-11	s CERAMIC 0.1uF 25V
C85	1-164-156-11	s CERAMIC 0.1uF 25V
C86	1-164-156-11	s CERAMIC 0.1uF 25V
C87	1-135-166-21	s TANTALUM, CHIP 47uF 10% 10V
C88	1-135-216-11	s TANTALUM, CHIP 10uF 20% 10V
C89	1-135-166-21	s TANTALUM, CHIP 47uF 10% 10V
C90	1-135-181-21	s TANTALUM, CHIP 4.7uF 10% 6.3V
C91	1-162-970-11	s CERAMIC, CHIP 0.01uF 10% 25V
C92	1-135-216-11	s TANTALUM, CHIP 10uF 20% 10V
C93	1-104-913-11	s TANTALUM, CHIP 10uF 20% 16V
C94	1-135-157-21	s TANTAL 10uF 10% 6.3V
C95	1-162-919-11	s CERAMIC, CHIP 22PF 5% 50V
C96	1-162-919-11	s CERAMIC, CHIP 22PF 5% 50V
C97	1-135-181-21	s TANTALUM, CHIP 4.7uF 10% 6.3V
C98	1-164-217-11	s CERAMIC 150PF 5% 50V
C99	1-162-970-11	s CERAMIC, CHIP 0.01uF 10% 25V
C100	1-162-964-11	s CERAMIC 0.001uF 10% 50V
C101	1-162-927-11	s CERAMIC, CHIP 100PF 5% 50V
C102	1-162-970-11	s CERAMIC, CHIP 0.01uF 10% 25V
C103	1-135-216-11	s TANTALUM, CHIP 10uF 20% 10V
C104	1-164-217-11	s CERAMIC 150PF 5% 50V
C105	1-162-970-11	s CERAMIC, CHIP 0.01uF 10% 25V
C106	1-162-964-11	s CERAMIC 0.001uF 10% 50V
C107	1-135-157-21	s TANTAL 10uF 10% 6.3V
C108	1-128-403-11	s ELECT 47uF 20% 35V
C109	1-135-136-21	s TANTALUM 6.8uF 10% 35V
C110	1-128-403-11	s ELECT 47uF 20% 35V
C111	1-126-934-11	s ELECT 220uF 20% 16V
C112	1-135-136-21	s TANTALUM 6.8uF 10% 35V
C113	1-135-136-21	s TANTALUM 6.8uF 10% 35V
C114	1-128-403-11	s ELECT 47uF 20% 35V
C115	1-126-934-11	s ELECT 220uF 20% 16V
C116	1-104-913-11	s TANTALUM, CHIP 10uF 20% 16V
C117	1-165-112-11	s CERAMIC 0.33uF 16V
C119	1-162-928-11	s CERAMIC 120PF 5% 50V
C120	1-135-166-21	s TANTALUM, CHIP 47uF 10% 10V
C121	1-104-914-11	s TANTAL 22uF 20% 16V
C123	1-162-970-11	s CERAMIC, CHIP 0.01uF 10% 25V
C125	1-162-970-11	s CERAMIC, CHIP 0.01uF 10% 25V
C126	1-162-970-11	s CERAMIC, CHIP 0.01uF 10% 25V
C130	1-162-964-11	s CERAMIC 0.001uF 10% 50V
C131	1-162-964-11	s CERAMIC 0.001uF 10% 50V
C132	1-162-964-11	s CERAMIC 0.001uF 10% 50V

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Ref. No. or Q'ty	Part No.	SP	Description
C133	1-162-964-11	s	CERAMIC 0.001uF 10% 50V
C134	1-162-964-11	s	CERAMIC 0.001uF 10% 50V
C135	1-162-964-11	s	CERAMIC 0.001uF 10% 50V
C136	1-135-164-21	s	TANTALUM, CHIP 22uF 20% 10V
C137	1-104-852-11	s	TANTALUM, CHIP 22uF 20% 10V
C138	1-104-852-11	s	TANTALUM, CHIP 22uF 20% 10V
C139	1-165-128-11	s	CERAMIC 0.22uF 16V
C140	1-135-179-21	s	TANTAL 2.2uF 10% 16V
C141	1-104-852-11	s	TANTALUM, CHIP 22uF 20% 10V
C142	1-135-179-21	s	TANTAL 2.2uF 10% 16V
C143	1-104-852-11	s	TANTALUM, CHIP 22uF 20% 10V
C144	1-104-852-11	s	TANTALUM, CHIP 22uF 20% 10V
C145	1-104-852-11	s	TANTALUM, CHIP 22uF 20% 10V
C201	1-131-377-00	s	TANTALUM 10uF 10% 10V
D2	8-719-404-35	s	DIODE MA141WK
D5	8-719-106-52	s	DIODE RD10M-B1
D6	8-719-029-65	s	DIODE RD4.7UJN-T1
D7	8-719-404-35	s	DIODE MA141WK
D8	8-719-404-35	s	DIODE MA141WK
D9	8-719-404-35	s	DIODE MA141WK
D10	8-719-017-42	s	DIODE HSM88WA
D11	8-719-404-35	s	DIODE MA141WK
D12	8-719-024-81	s	DIODE 1SS300-TE85L
D17	8-719-029-76	s	DIODE RD13UJN-T1
D18	8-719-404-35	s	DIODE MA141WK
D19	8-719-404-35	s	DIODE MA141WK
D20	8-719-404-35	s	DIODE MA141WK
D21	8-719-024-81	s	DIODE 1SS300-TE85L
D22	8-719-029-65	s	DIODE RD4.7UJN-T1
D23	8-719-800-76	s	DIODE 1SS226
D24	8-719-800-76	s	DIODE 1SS226
D25	8-719-029-65	s	DIODE RD4.7UJN-T1
D26	8-719-404-35	s	DIODE MA141WK
D27	8-719-800-76	s	DIODE 1SS226
D28	8-719-800-76	s	DIODE 1SS226
D29	8-719-029-76	s	DIODE RD13UJN-T1
D30	8-759-274-67	s	IC LM4040BIM3X-5.0
D31	8-719-041-68	s	DIODE RD3.3UH-T1
D32	8-719-041-68	s	DIODE RD3.3UH-T1
IC1	8-759-278-58	s	IC NJM4558V-TE2
IC2	8-759-082-61	s	IC TC4W53FU
IC4	8-759-983-69	s	IC LM358PS
IC5	8-759-085-04	s	IC M51132FP
IC6	8-759-278-58	s	IC NJM4558V-TE2
IC8	8-759-356-17	s	IC NJM4556AM-A-TE2
IC9	8-759-300-71	s	IC MC14053BF
IC10	8-759-082-61	s	IC TC4W53FU
IC11	8-759-100-93	s	IC UPC393G2
IC12	8-759-209-54	s	IC TC4S01F
IC13	8-759-231-30	s	IC TC4S30F
IC14	8-759-278-58	s	IC NJM4558V-TE2
IC15	8-759-278-58	s	IC NJM4558V-TE2
IC16	8-759-092-81	s	IC SN75158PS
IC17	8-749-924-62	s	PN070 COUPLER PC410
IC18	8-749-924-62	s	PN070 COUPLER PC410
IC19	8-759-231-30	s	IC TC4S30F
IC20	8-759-032-01	s	IC MC74HC00AF
IC22	8-759-100-93	s	IC UPC393G2
IC23	8-759-209-57	s	IC TC4S69F

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Ref. No. or Q'ty	Part No.	SP	Description
IC24	8-759-260-55	s	IC TLC272CPW-E05
L1	1-412-032-11	s	INDUCTOR CHIP 100uH
Q1	8-729-119-04	s	TRANSISTOR 2SC3115
Q2	8-729-117-32	s	TRANSISTOR 2SC4177
Q3	8-729-118-56	s	TRANSISTOR 2SK852-X2
Q4	8-729-118-56	s	TRANSISTOR 2SK852-X2
Q5	8-729-119-04	s	TRANSISTOR 2SC3115
Q6	8-729-117-32	s	TRANSISTOR 2SC4177
Q7	8-729-117-16	s	TRANSISTOR 2SA1611-M6
Q8	8-729-117-16	s	TRANSISTOR 2SA1611-M6
Q9	8-729-117-16	s	TRANSISTOR 2SA1611-M6
Q17	8-729-117-32	s	TRANSISTOR 2SC4177
Q18	8-729-117-32	s	TRANSISTOR 2SC4177
Q19	8-729-117-32	s	TRANSISTOR 2SC4177
Q20	8-729-117-32	s	TRANSISTOR 2SC4177
Q21	8-729-928-27	s	TRANSISTOR DTA144EE
Q22	8-729-119-04	s	TRANSISTOR 2SC3115
Q23	8-729-119-04	s	TRANSISTOR 2SC3115
Q24	8-729-119-04	s	TRANSISTOR 2SC3115
Q25	8-729-117-32	s	TRANSISTOR 2SC4177
Q26	8-729-118-56	s	TRANSISTOR 2SK852-X2
Q27	8-729-118-56	s	TRANSISTOR 2SK852-X2
Q28	8-729-118-56	s	TRANSISTOR 2SK852-X2
Q29	8-729-118-56	s	TRANSISTOR 2SK852-X2
Q30	8-729-118-56	s	TRANSISTOR 2SK852-X2
Q31	8-729-117-32	s	TRANSISTOR 2SC4177
Q32	8-729-119-04	s	TRANSISTOR 2SC3115
Q33	8-729-117-32	s	TRANSISTOR 2SC4177
Q34	8-729-117-32	s	TRANSISTOR 2SC4177
Q35	8-729-117-16	s	TRANSISTOR 2SA1611-M6
Q36	8-729-119-61	s	TRANSISTOR 2SA811A-C15
Q37	8-729-117-32	s	TRANSISTOR 2SC4177
Q38	8-729-928-27	s	TRANSISTOR DTA144EE
Q39	8-729-119-04	s	TRANSISTOR 2SC3115
Q40	8-729-118-56	s	TRANSISTOR 2SK852-X2
Q41	8-729-119-04	s	TRANSISTOR 2SC3115
Q42	8-729-928-81	s	TRANSISTOR DTC144EE
Q43	8-729-119-04	s	TRANSISTOR 2SC3115
Q44	8-729-216-22	s	TRANSISTOR 2SA1162
Q45	8-729-117-32	s	TRANSISTOR 2SC4177
Q46	8-729-117-32	s	TRANSISTOR 2SC4177
Q47	8-729-119-04	s	TRANSISTOR 2SC3115
Q48	8-729-117-32	s	TRANSISTOR 2SC4177
Q49	8-729-118-56	s	TRANSISTOR 2SK852-X2
Q50	8-729-118-56	s	TRANSISTOR 2SK852-X2
Q51	8-729-118-56	s	TRANSISTOR 2SK852-X2
Q52	8-729-118-56	s	TRANSISTOR 2SK852-X2
Q53	8-729-118-56	s	TRANSISTOR 2SK852-X2
Q54	8-729-117-32	s	TRANSISTOR 2SC4177
Q55	8-729-119-04	s	TRANSISTOR 2SC3115
Q56	8-729-117-32	s	TRANSISTOR 2SC4177
Q57	8-729-117-32	s	TRANSISTOR 2SC4177
Q58	8-729-117-16	s	TRANSISTOR 2SA1611-M6
Q59	8-729-117-32	s	TRANSISTOR 2SC4177
Q60	8-729-117-32	s	TRANSISTOR 2SC4177
Q61	8-729-117-32	s	TRANSISTOR 2SC4177
Q62	8-729-118-56	s	TRANSISTOR 2SK852-X2

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Ref. No. or Q'ty	Part No.	SP	Description
Q63	8-729-117-16	s	TRANSISTOR 2SA1611-M6
Q64	8-729-117-32	s	TRANSISTOR 2SC4177
Q65	8-729-117-16	s	TRANSISTOR 2SA1611-M6
Q66	8-729-106-68	s	TRANSISTOR 2SC1615A-GP
Q67	8-729-106-60	s	TRANSISTOR 2SB1115A
Q68	8-729-117-32	s	TRANSISTOR 2SC4177
Q69	8-729-117-32	s	TRANSISTOR 2SC4177
Q70	8-729-117-32	s	TRANSISTOR 2SC4177
Q71	8-729-117-32	s	TRANSISTOR 2SC4177
Q72	8-729-118-56	s	TRANSISTOR 2SK852-X2
Q73	8-729-117-16	s	TRANSISTOR 2SA1611-M6
Q74	8-729-117-32	s	TRANSISTOR 2SC4177
Q75	8-729-117-16	s	TRANSISTOR 2SA1611-M6
Q76	8-729-106-68	s	TRANSISTOR 2SC1615A-GP
Q77	8-729-106-60	s	TRANSISTOR 2SB1115A
Q78	8-729-141-48	s	TRANSISTOR 2SB624-BV345
Q79	8-729-928-81	s	TRANSISTOR DTC144EE
Q82	8-729-117-32	s	TRANSISTOR 2SC4177
Q83	8-729-159-65	s	TRANSISTOR 2SD596-DV5
Q84	8-729-141-48	s	TRANSISTOR 2SB624-BV345
Q85	8-729-141-48	s	TRANSISTOR 2SB624-BV345
R1	1-218-844-11	s	CHIP, METAL 750 0.50% 1/16W
R2	1-218-844-11	s	CHIP, METAL 750 0.50% 1/16W
R3	1-216-821-11	s	METAL, CHIP 1K 5% 1/16W
R4	1-216-821-11	s	METAL, CHIP 1K 5% 1/16W
R5	1-216-825-11	s	METAL, CHIP 2.2K 5% 1/16W
R6	1-216-825-11	s	METAL, CHIP 2.2K 5% 1/16W
R7	1-216-797-11	s	METAL, CHIP 10 5% 1/16W
R8	1-216-797-11	s	METAL, CHIP 10 5% 1/16W
R9	1-218-723-11	s	METAL 20K 0.50% 1/16W
R10	1-218-870-11	s	CHIP, METAL 9.1K 0.50% 1/16W
R11	1-218-720-11	s	METAL 15K 0.50% 1/16W
R12	1-216-857-11	s	METAL, CHIP 1M 5% 1/16W
R13	1-216-845-11	s	METAL, CHIP 100K 5% 1/16W
R14	1-216-837-11	s	METAL, CHIP 22K 5% 1/16W
R15	1-218-870-11	s	CHIP, METAL 9.1K 0.50% 1/16W
R16	1-218-720-11	s	METAL 15K 0.50% 1/16W
R17	1-218-723-11	s	METAL 20K 0.50% 1/16W
R18	1-216-821-11	s	METAL, CHIP 1K 5% 1/16W
R19	1-218-724-11	s	CHIP, METAL 22K 5% 1/16W
R20	1-218-723-11	s	METAL 20K 0.50% 1/16W
R21	1-218-723-11	s	METAL 20K 0.50% 1/16W
R22	1-218-727-11	s	METAL 30K 0.50% 1/16W
R23	1-216-845-11	s	METAL, CHIP 100K 5% 1/16W
R24	1-218-828-11	s	METAL 160 0.50% 1/16W
R25	1-216-857-11	s	METAL, CHIP 1M 5% 1/16W
R26	1-216-857-11	s	METAL, CHIP 1M 5% 1/16W
R27	1-216-831-11	s	METAL, CHIP 6.8K 5% 1/16W
R28	1-216-849-11	s	METAL, CHIP 220K 5% 1/16W
R30	1-218-866-11	s	CHIP, METAL 6.2K 0.50% 1/16W
R31	1-216-847-11	s	METAL, CHIP 150K 5% 1/16W
R32	1-216-845-11	s	METAL, CHIP 100K 5% 1/16W
R33	1-216-846-11	s	METAL, CHIP 120K 5% 1/16W
R34	1-216-835-11	s	METAL, CHIP 15K 5% 1/16W
R35	1-216-837-11	s	METAL, CHIP 22K 5% 1/16W
R36	1-216-835-11	s	METAL, CHIP 15K 5% 1/16W
R37	1-220-158-91	s	CHIP, METAL 3.6K 5% 1/16W
R38	1-216-829-11	s	METAL, CHIP 4.7K 5% 1/16W

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Ref. No. or Q'ty	Part No.	SP	Description
R39	1-216-835-11	s	METAL, CHIP 15K 5% 1/16W
R40	1-216-837-11	s	METAL, CHIP 22K 5% 1/16W
R41	1-216-849-11	s	METAL, CHIP 220K 5% 1/16W
R42	1-216-835-11	s	METAL, CHIP 15K 5% 1/16W
R43	1-220-158-91	s	CHIP, METAL 3.6K 5% 1/16W
R44	1-216-829-11	s	METAL, CHIP 4.7K 5% 1/16W
R46	1-216-805-11	s	METAL, CHIP 47 5% 1/16W
R47	1-216-837-11	s	METAL, CHIP 22K 5% 1/16W
R48	1-216-837-11	s	METAL, CHIP 22K 5% 1/16W
R49	1-216-837-11	s	METAL, CHIP 22K 5% 1/16W
R50	1-216-837-11	s	METAL, CHIP 22K 5% 1/16W
R51	1-216-837-11	s	METAL, CHIP 22K 5% 1/16W
R52	1-218-752-11	s	METAL, CHIP 330K 5% 1/16W
R53	1-218-752-11	s	METAL, CHIP 330K 5% 1/16W
R56	1-216-829-11	s	METAL, CHIP 4.7K 5% 1/16W
R57	1-216-829-11	s	METAL, CHIP 4.7K 5% 1/16W
R58	1-216-825-11	s	METAL, CHIP 2.2K 5% 1/16W
R59	1-216-825-11	s	METAL, CHIP 2.2K 5% 1/16W
R60	1-216-833-11	s	METAL, CHIP 10K 5% 1/16W
R61	1-216-837-11	s	METAL, CHIP 22K 5% 1/16W
R62	1-216-833-11	s	METAL, CHIP 10K 5% 1/16W
R63	1-216-825-11	s	METAL, CHIP 2.2K 5% 1/16W
R64	1-216-833-11	s	METAL, CHIP 10K 5% 1/16W
R65	1-216-833-11	s	METAL, CHIP 10K 5% 1/16W
R66	1-216-829-11	s	METAL, CHIP 4.7K 5% 1/16W
R67	1-216-821-11	s	METAL, CHIP 1K 5% 1/16W
R68	1-216-821-11	s	METAL, CHIP 1K 5% 1/16W
R69	1-216-819-11	s	METAL, CHIP 680 5% 1/16W
R70	1-216-819-11	s	METAL, CHIP 680 5% 1/16W
R71	1-216-819-11	s	METAL, CHIP 680 5% 1/16W
R72	1-216-823-11	s	METAL, CHIP 1.5K 5% 1/16W
R73	1-216-827-11	s	METAL, CHIP 3.3K 5% 1/16W
R74	1-216-805-11	s	METAL, CHIP 47 5% 1/16W
R75	1-216-825-11	s	METAL, CHIP 2.2K 5% 1/16W
R76	1-216-815-11	s	METAL, CHIP 330 5% 1/16W
R77	1-216-827-11	s	METAL, CHIP 3.3K 5% 1/16W
R78	1-216-837-11	s	METAL, CHIP 22K 5% 1/16W
R79	1-216-845-11	s	METAL, CHIP 100K 5% 1/16W
R80	1-216-821-11	s	METAL, CHIP 1K 5% 1/16W
R81	1-216-833-11	s	METAL, CHIP 10K 5% 1/16W
R82	1-216-833-11	s	METAL, CHIP 10K 5% 1/16W
R83	1-216-834-11	s	METAL, CHIP 12K 5% 1/16W
R84	1-218-720-11	s	METAL 15K 0.50% 1/16W
R85	1-218-841-11	s	CHIP, METAL 560 0.50% 1/16W
R86	1-216-835-11	s	METAL, CHIP 15K 5% 1/16W
R87	1-216-829-11	s	METAL, CHIP 4.7K 5% 1/16W
R88	1-216-833-11	s	METAL, CHIP 10K 5% 1/16W
R89	1-216-845-11	s	METAL, CHIP 100K 5% 1/16W
R90	1-216-845-11	s	METAL, CHIP 100K 5% 1/16W
R91	1-216-833-11	s	METAL, CHIP 10K 5% 1/16W
R92	1-216-833-11	s	METAL, CHIP 10K 5% 1/16W
R93	1-216-821-11	s	METAL, CHIP 1K 5% 1/16W
R94	1-216-833-11	s	METAL, CHIP 10K 5% 1/16W
R95	1-216-845-11	s	METAL, CHIP 100K 5% 1/16W
R97	1-216-817-11	s	METAL, CHIP 470 5% 1/16W
R98	1-216-801-11	s	METAL, CHIP 22 5% 1/16W
R99	1-216-833-11	s	METAL, CHIP 10K 5% 1/16W
R100	1-216-841-11	s	METAL, CHIP 47K 5% 1/16W
R101	1-216-833-11	s	METAL, CHIP 10K 5% 1/16W

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Ref. No. or Q'ty	Part No.	SP	Description
R102	1-216-841-11	s	METAL, CHIP 47K 5% 1/16W
R103	1-218-724-11	s	CHIP, METAL 22K 5% 1/16W
R104	1-218-724-11	s	CHIP, METAL 22K 5% 1/16W
R105	1-218-724-11	s	CHIP, METAL 22K 5% 1/16W
R106	1-216-797-11	s	METAL, CHIP 10 5% 1/16W
R107	1-216-831-11	s	METAL, CHIP 6.8K 5% 1/16W
R108	1-216-857-11	s	METAL, CHIP 1M 5% 1/16W
R109	1-216-857-11	s	METAL, CHIP 1M 5% 1/16W
R110	1-216-857-11	s	METAL, CHIP 1M 5% 1/16W
R111	1-216-857-11	s	METAL, CHIP 1M 5% 1/16W
R112	1-216-797-11	s	METAL, CHIP 10 5% 1/16W
R113	1-216-821-11	s	METAL, CHIP 1K 5% 1/16W
R114	1-216-821-11	s	METAL, CHIP 1K 5% 1/16W
R115	1-216-837-11	s	METAL, CHIP 22K 5% 1/16W
R116	1-218-841-11	s	CHIP, METAL 560 0.50% 1/16W
R117	1-218-698-11	s	METAL 1.8K 0.50% 1/16W
R118	1-218-710-11	s	CHIP, METAL 5.6K 0.50% 1/16W
R119	1-218-723-11	s	METAL 20K 0.50% 1/16W
R120	1-216-827-11	s	METAL, CHIP 3.3K 5% 1/16W
R121	1-216-831-11	s	METAL, CHIP 6.8K 5% 1/16W
R122	1-218-724-11	s	CHIP, METAL 22K 5% 1/16W
R123	1-216-813-11	s	METAL, CHIP 220 5% 1/16W
R124	1-218-724-11	s	CHIP, METAL 22K 5% 1/16W
R125	1-218-722-11	s	CHIP, METAL 18K 0.50% 1/16W
R126	1-218-722-11	s	CHIP, METAL 18K 0.50% 1/16W
R127	1-218-724-11	s	CHIP, METAL 22K 5% 1/16W
R128	1-216-797-11	s	METAL, CHIP 10 5% 1/16W
R130	1-216-797-11	s	METAL, CHIP 10 5% 1/16W
R131	1-216-801-11	s	METAL, CHIP 22 5% 1/16W
R132	1-216-845-11	s	METAL, CHIP 100K 5% 1/16W
R133	1-216-839-11	s	METAL, CHIP 33K 5% 1/16W
R134	1-216-857-11	s	METAL, CHIP 1M 5% 1/16W
R135	1-216-857-11	s	METAL, CHIP 1M 5% 1/16W
R136	1-216-827-11	s	METAL, CHIP 3.3K 5% 1/16W
R137	1-216-826-11	s	METAL, CHIP 2.7K 5% 1/16W
R138	1-216-827-11	s	METAL, CHIP 3.3K 5% 1/16W
R139	1-218-708-11	s	METAL 4.7K 0.50% 1/16W
R140	1-218-708-11	s	METAL 4.7K 0.50% 1/16W
R141	1-216-853-11	s	METAL, CHIP 470K 5% 1/16W
R142	1-216-827-11	s	METAL, CHIP 3.3K 5% 1/16W
R143	1-216-826-11	s	METAL, CHIP 2.7K 5% 1/16W
R144	1-216-827-11	s	METAL, CHIP 3.3K 5% 1/16W
R145	1-216-815-11	s	METAL, CHIP 330 5% 1/16W
R146	1-216-837-11	s	METAL, CHIP 22K 5% 1/16W
R147	1-216-837-11	s	METAL, CHIP 22K 5% 1/16W
R148	1-216-837-11	s	METAL, CHIP 22K 5% 1/16W
R149	1-216-837-11	s	METAL, CHIP 22K 5% 1/16W
R150	1-218-829-11	s	CHIP, METAL 180 0.50% 1/16W
R151	1-218-829-11	s	CHIP, METAL 180 0.50% 1/16W
R156	1-218-724-11	s	CHIP, METAL 22K 5% 1/16W
R157	1-218-724-11	s	CHIP, METAL 22K 5% 1/16W
R158	1-218-724-11	s	CHIP, METAL 22K 5% 1/16W
R159	1-216-797-11	s	METAL, CHIP 10 5% 1/16W
R160	1-216-831-11	s	METAL, CHIP 6.8K 5% 1/16W
R161	1-216-857-11	s	METAL, CHIP 1M 5% 1/16W
R162	1-216-857-11	s	METAL, CHIP 1M 5% 1/16W
R163	1-216-857-11	s	METAL, CHIP 1M 5% 1/16W
R164	1-216-857-11	s	METAL, CHIP 1M 5% 1/16W
R165	1-216-797-11	s	METAL, CHIP 10 5% 1/16W

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Ref. No. or Q'ty	Part No.	SP	Description
R166	1-216-821-11	s	METAL, CHIP 1K 5% 1/16W
R167	1-216-821-11	s	METAL, CHIP 1K 5% 1/16W
R168	1-216-837-11	s	METAL, CHIP 22K 5% 1/16W
R169	1-218-841-11	s	CHIP, METAL 560 0.50% 1/16W
R170	1-218-698-11	s	METAL 1.8K 0.50% 1/16W
R171	1-218-710-11	s	CHIP, METAL 5.6K 0.50% 1/16W
R172	1-218-723-11	s	METAL 20K 0.50% 1/16W
R173	1-216-831-11	s	METAL, CHIP 6.8K 5% 1/16W
R174	1-216-827-11	s	METAL, CHIP 3.3K 5% 1/16W
R175	1-218-724-11	s	CHIP, METAL 22K 5% 1/16W
R176	1-216-813-11	s	METAL, CHIP 220 5% 1/16W
R177	1-218-724-11	s	CHIP, METAL 22K 5% 1/16W
R178	1-218-722-11	s	CHIP, METAL 18K 0.50% 1/16W
R179	1-218-722-11	s	CHIP, METAL 18K 0.50% 1/16W
R180	1-218-724-11	s	CHIP, METAL 22K 5% 1/16W
R181	1-216-797-11	s	METAL, CHIP 10 5% 1/16W
R182	1-216-837-11	s	METAL, CHIP 22K 5% 1/16W
R183	1-218-724-11	s	CHIP, METAL 22K 5% 1/16W
R184	1-216-845-11	s	METAL, CHIP 100K 5% 1/16W
R188	1-216-797-11	s	METAL, CHIP 10 5% 1/16W
R189	1-216-825-11	s	METAL, CHIP 2.2K 5% 1/16W
R190	1-216-797-11	s	METAL, CHIP 10 5% 1/16W
R191	1-216-809-11	s	METAL, CHIP 100 5% 1/16W
R193	1-216-825-11	s	METAL, CHIP 2.2K 5% 1/16W
R194	1-218-866-11	s	CHIP, METAL 6.2K 0.50% 1/16W
R195	1-216-833-11	s	METAL, CHIP 10K 5% 1/16W
R196	1-216-849-11	s	METAL, CHIP 220K 5% 1/16W
R197	1-216-815-11	s	METAL, CHIP 330 5% 1/16W
R198	1-216-833-11	s	METAL, CHIP 10K 5% 1/16W
R199	1-216-849-11	s	METAL, CHIP 220K 5% 1/16W
R200	1-216-839-11	s	METAL, CHIP 33K 5% 1/16W
R201	1-216-845-11	s	METAL, CHIP 100K 5% 1/16W
R202	1-216-839-11	s	METAL, CHIP 33K 5% 1/16W
R203	1-216-845-11	s	METAL, CHIP 100K 5% 1/16W
R204	1-216-845-11	s	METAL, CHIP 100K 5% 1/16W
R205	1-216-845-11	s	METAL, CHIP 100K 5% 1/16W
R206	1-216-845-11	s	METAL, CHIP 100K 5% 1/16W
R207	1-216-845-11	s	METAL, CHIP 100K 5% 1/16W
R208	1-216-797-11	s	METAL, CHIP 10 5% 1/16W
R209	1-216-815-11	s	METAL, CHIP 330 5% 1/16W
R210	1-216-815-11	s	METAL, CHIP 330 5% 1/16W
R211	1-216-797-11	s	METAL, CHIP 10 5% 1/16W
R215	1-216-789-11	s	METAL, CHIP 2.2 5% 1/16W
R216	1-216-809-11	s	METAL, CHIP 100 5% 1/16W
R217	1-216-809-11	s	METAL, CHIP 100 5% 1/16W
R220	1-216-853-11	s	METAL, CHIP 470K 5% 1/16W
R221	1-216-853-11	s	METAL, CHIP 470K 5% 1/16W
R222	1-216-853-11	s	METAL, CHIP 470K 5% 1/16W
R223	1-216-853-11	s	METAL, CHIP 470K 5% 1/16W
R224	1-216-853-11	s	METAL, CHIP 470K 5% 1/16W
R225	1-216-853-11	s	METAL, CHIP 470K 5% 1/16W
R226	1-216-853-11	s	METAL, CHIP 470K 5% 1/16W
R227	1-216-853-11	s	METAL, CHIP 470K 5% 1/16W
R229	1-216-791-11	s	METAL, CHIP 3.3 5% 1/16W
R230	1-216-791-11	s	METAL, CHIP 3.3 5% 1/16W
R231	1-216-809-11	s	METAL, CHIP 100 5% 1/16W
R232	1-216-829-11	s	METAL, CHIP 4.7K 5% 1/16W
R233	1-216-829-11	s	METAL, CHIP 4.7K 5% 1/16W
R234	1-216-825-11	s	METAL, CHIP 2.2K 5% 1/16W

(AU-211 BOARD)

Ref. No. or Q'ty	Part No.	SP Description
R235	1-216-825-11	s METAL, CHIP 2.2K 5% 1/16W
R236	1-216-833-11	s METAL, CHIP 10K 5% 1/16W
R237	1-216-837-11	s METAL, CHIP 22K 5% 1/16W
R238	1-216-819-11	s METAL, CHIP 680 5% 1/16W
R239	1-216-819-11	s METAL, CHIP 680 5% 1/16W
R240	1-216-819-11	s METAL, CHIP 680 5% 1/16W
R241	1-216-823-11	s METAL, CHIP 1.5K 5% 1/16W
R242	1-216-827-11	s METAL, CHIP 3.3K 5% 1/16W
R243	1-216-805-11	s METAL, CHIP 47 5% 1/16W
R244	1-216-825-11	s METAL, CHIP 2.2K 5% 1/16W
R245	1-216-815-11	s METAL, CHIP 330 5% 1/16W
R246	1-216-815-11	s METAL, CHIP 330 5% 1/16W
R247	1-216-797-11	s METAL, CHIP 10 5% 1/16W
R248	1-216-797-11	s METAL, CHIP 10 5% 1/16W
R250	1-216-837-11	s METAL, CHIP 22K 5% 1/16W
R251	1-216-835-11	s METAL, CHIP 15K 5% 1/16W
R253	1-216-791-11	s METAL, CHIP 3.3 5% 1/16W
R254	1-216-791-11	s METAL, CHIP 3.3 5% 1/16W
R255	1-216-809-11	s METAL, CHIP 100 5% 1/16W
R257	1-216-789-11	s METAL, CHIP 2.2 5% 1/16W
R258	1-216-789-11	s METAL, CHIP 2.2 5% 1/16W
R266	1-216-833-11	s METAL, CHIP 10K 5% 1/16W
R267	1-216-833-11	s METAL, CHIP 10K 5% 1/16W
R268	1-216-837-11	s METAL, CHIP 22K 5% 1/16W
R269	1-216-829-11	s METAL, CHIP 4.7K 5% 1/16W
R270	1-216-833-11	s METAL, CHIP 10K 5% 1/16W
R271	1-216-845-11	s METAL, CHIP 100K 5% 1/16W
R272	1-216-845-11	s METAL, CHIP 100K 5% 1/16W
R273	1-216-797-11	s METAL, CHIP 10 5% 1/16W
R274	1-216-797-11	s METAL, CHIP 10 5% 1/16W
R275	1-218-671-11	s CHIP, METAL 130 0.50% 1/16W
R276	1-216-831-11	s METAL, CHIP 6.8K 5% 1/16W
R277	1-216-831-11	s METAL, CHIP 6.8K 5% 1/16W
R278	1-216-833-11	s METAL, CHIP 10K 5% 1/16W
R279	1-216-829-11	s METAL, CHIP 4.7K 5% 1/16W
R280	1-216-829-11	s METAL, CHIP 4.7K 5% 1/16W
R285	1-216-841-11	s METAL, CHIP 47K 5% 1/16W
R286	1-216-841-11	s METAL, CHIP 47K 5% 1/16W
R287	1-216-821-11	s METAL, CHIP 1K 5% 1/16W
R288	1-216-821-11	s METAL, CHIP 1K 5% 1/16W
R289	1-216-843-11	s METAL, CHIP 68K 5% 1/16W
R290	1-216-797-11	s METAL, CHIP 10 5% 1/16W
R291	1-216-797-11	s METAL, CHIP 10 5% 1/16W
R292	1-216-797-11	s METAL, CHIP 10 5% 1/16W
R293	1-216-797-11	s METAL, CHIP 10 5% 1/16W
R294	1-216-833-11	s METAL, CHIP 10K 5% 1/16W
R295	1-216-833-11	s METAL, CHIP 10K 5% 1/16W
R296	1-216-809-11	s METAL, CHIP 100 5% 1/16W
R297	1-216-834-11	s METAL, CHIP 12K 5% 1/16W
R298	1-218-727-11	s METAL 30K 0.50% 1/16W
R299	1-216-809-11	s METAL, CHIP 100 5% 1/16W
R300	1-216-821-11	s METAL, CHIP 1K 5% 1/16W
R301	1-218-700-11	s METAL 2.2K 0.50% 1/16W
R302	1-218-700-11	s METAL 2.2K 0.50% 1/16W
R400	1-218-873-11	s CHIP, METAL 12K 0.50% 1/16W
R401	1-218-727-11	s METAL 30K 0.50% 1/16W
R402	1-218-844-11	s CHIP, METAL 750 0.50% 1/16W
R403	1-218-844-11	s CHIP, METAL 750 0.50% 1/16W
R404	1-215-407-00	s METAL 270 1% 1/6W
R410	1-218-756-11	s CHIP, METAL 150K 0.5% 1/10W
R411	1-218-756-11	s CHIP, METAL 150K 0.5% 1/10W

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Ref. No. or Q'ty	Part No.	SP Description
RV1	1-237-036-11	s RES, ADJ METAL 10K
RV3	1-237-040-11	s RES, ADJ METAL 200K
RV4	1-237-036-11	s RES, ADJ METAL 10K
SW1	1-692-531-11	s SWITCH, TOGGLE
SW2	1-692-271-21	s SWITCH, SLIDE
SW3	1-692-881-21	s SWITCH, SLIDE
SW4	1-692-530-11	s SWITCH, TOGGLE
SW5	1-570-711-11	s SWITCH, SLIDE
SW6	1-570-711-11	s SWITCH, SLIDE

AU-215 BOARD

Ref. No. or Q'ty	Part No.	SP	Description
1pc	A-8272-813-A	o	MOUNTED CIRCUIT BOARD, AU-215
1pc	3-693-199-01	o	PANEL, PC BOARD AU-215
1pc	3-724-753-01	o	RING
6pcs	3-729-061-01	s	SCREW (M2X4.5) (TYPE 1)
C1	1-135-091-91	s	CHIP, TANTALUM 1uF 20% 16V
C2	1-126-404-11	s	CHIP,ELECT 4.7uF 20% 50V
C3	1-162-970-11	s	CERAMIC, CHIP 0.01uF 10% 25V
C4	1-126-404-11	s	CHIP,ELECT 4.7uF 20% 50V
C5	1-162-970-11	s	CERAMIC, CHIP 0.01uF 10% 25V
C6	1-135-091-91	s	CHIP, TANTALUM 1uF 20% 16V
C7	1-162-970-11	s	CERAMIC, CHIP 0.01uF 10% 25V
C8	1-135-165-11	s	TANTALUM, CHIP 33uF 10% 16V
C40	1-126-397-11	s	ELECT, CHIP 33uF 20% 25V
C41	1-135-145-11	s	TANTALUM, CHIP 0.47uF 10% 35V
C42	1-135-166-21	s	TANTALUM, CHIP 47uF 10% 10V
C43	1-104-851-11	s	TANTALUM, CHIP 10uF 20% 10V
C44	1-104-823-11	s	TANTALUM, CHIP 47uF 20% 16V
C45	1-128-404-11	s	ELECT, CHIP 100uF 20% 35V
C200	1-128-393-11	s	ELECT 100uF 20% 10V
C201	1-104-851-11	s	TANTALUM, CHIP 10uF 20% 10V
C202	1-135-166-21	s	TANTALUM, CHIP 47uF 10% 10V
C203	1-135-166-21	s	TANTALUM, CHIP 47uF 10% 10V
C204	1-104-852-11	s	TANTALUM, CHIP 22uF 20% 10V
C206	1-135-166-21	s	TANTALUM, CHIP 47uF 10% 10V
C207	1-164-156-11	s	CERAMIC 0.1uF 25V
C208	1-135-166-21	s	TANTALUM, CHIP 47uF 10% 10V
C210	1-135-166-21	s	TANTALUM, CHIP 47uF 10% 10V
C211	1-135-166-21	s	TANTALUM, CHIP 47uF 10% 10V
C212	1-104-851-11	s	TANTALUM, CHIP 10uF 20% 10V
C230	1-135-166-21	s	TANTALUM, CHIP 47uF 10% 10V
C231	1-135-166-21	s	TANTALUM, CHIP 47uF 10% 10V
C240	1-164-363-11	s	CERAMIC 560P 5% 50V
C300	1-164-156-11	s	CERAMIC 0.1uF 25V
C301	1-104-851-11	s	TANTALUM, CHIP 10uF 20% 10V
C302	1-164-156-11	s	CERAMIC 0.1uF 25V
C303	1-164-156-11	s	CERAMIC 0.1uF 25V
C304	1-126-397-11	s	ELECT, CHIP 33uF 20% 25V
C305	1-164-156-11	s	CERAMIC 0.1uF 25V
C306	1-126-397-11	s	ELECT, CHIP 33uF 20% 25V
C307	1-164-156-11	s	CERAMIC 0.1uF 25V
C309	1-164-156-11	s	CERAMIC 0.1uF 25V
C311	1-164-156-11	s	CERAMIC 0.1uF 25V
C312	1-135-213-21	s	TANTALUM, CHIP 3.3uF 20% 25V
C313	1-135-213-21	s	TANTALUM, CHIP 3.3uF 20% 25V
C316	1-164-156-11	s	CERAMIC 0.1uF 25V
C317	1-135-213-21	s	TANTALUM, CHIP 3.3uF 20% 25V
C318	1-135-213-21	s	TANTALUM, CHIP 3.3uF 20% 25V
D1	8-719-029-76	s	DIODE RD13UJN-T1
D2	8-719-404-35	s	DIODE MA141WK
D3	8-719-404-35	s	DIODE MA141WK
D40	8-719-989-76	s	DIODE SC802-04
D41	8-719-989-76	s	DIODE SC802-04
D42	8-719-029-77	s	DIODE RD15UJN-T1
IC1	8-759-076-06	s	IC TL064CPW
IC2	8-759-082-61	s	IC TC4W53FU
IC40	8-759-349-19	s	IC NJM3414AM-TE2
IC41	8-759-173-16	s	IC TL062CPW
IC200	8-759-076-06	s	IC TL064CPW

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Ref. No. or Q'ty	Part No.	SP	Description
IC201	8-759-700-45	s	IC NJM4556M-A
IC300	8-759-082-57	s	IC TC7W04FU
IC301	8-759-058-62	s	IC TC7S08FU(TE85R)
IC302	8-759-011-65	s	IC MC74HC4053F
IC303	8-759-173-16	s	IC TL062CPW
IC304	8-759-929-21	s	IC TLC27L2CPS
Q1	8-729-117-32	s	TRANSISTOR 2SC4177
Q2	8-729-117-16	s	TRANSISTOR 2SA1611-M6
Q3	8-729-119-61	s	TRANSISTOR 2SA811A-C15
Q4	8-729-029-14	s	TRANSISTOR DTC144EUA-T106
Q5	8-729-028-91	s	TRANSISTOR DTA144EUA-T106
Q6	8-729-119-04	s	TRANSISTOR 2SC3115
Q7	8-729-119-04	s	TRANSISTOR 2SC3115
Q8	8-729-029-14	s	TRANSISTOR DTC144EUA-T106
Q9	8-729-029-14	s	TRANSISTOR DTC144EUA-T106
Q10	8-729-216-22	s	TRANSISTOR 2SA1162
Q11	8-729-118-56	s	TRANSISTOR 2SK852-X2
Q40	8-729-807-51	s	TRANSISTOR 2SD1623-S
Q300	8-729-101-07	s	TRANSISTOR 2SB798
Q301	8-729-101-07	s	TRANSISTOR 2SB798
Q302	8-729-101-07	s	TRANSISTOR 2SB798
Q303	8-729-117-32	s	TRANSISTOR 2SC4177
Q304	8-729-117-16	s	TRANSISTOR 2SA1611-M6
Q305	8-729-101-07	s	TRANSISTOR 2SB798
Q306	8-729-029-14	s	TRANSISTOR DTC144EUA-T106
Q307	8-729-117-16	s	TRANSISTOR 2SA1611-M6
Q308	8-729-101-07	s	TRANSISTOR 2SB798
Q309	8-729-029-14	s	TRANSISTOR DTC144EUA-T106
R1	1-216-841-11	s	METAL, CHIP 47K 5% 1/16W
R2	1-216-841-11	s	METAL, CHIP 47K 5% 1/16W
R4	1-216-841-11	s	METAL, CHIP 47K 5% 1/16W
R5	1-216-845-11	s	METAL, CHIP 100K 5% 1/16W
R6	1-216-841-11	s	METAL, CHIP 47K 5% 1/16W
R7	1-216-841-11	s	METAL, CHIP 47K 5% 1/16W
R8	1-216-841-11	s	METAL, CHIP 47K 5% 1/16W
R9	1-216-821-11	s	METAL, CHIP 1K 5% 1/16W
R10	1-216-838-11	s	METAL, CHIP 27K 5% 1/16W
R11	1-216-836-11	s	METAL, CHIP 18K 5% 1/16W
R12	1-216-836-11	s	METAL, CHIP 18K 5% 1/16W
R13	1-216-838-11	s	METAL, CHIP 27K 5% 1/16W
R14	1-216-797-11	s	METAL, CHIP 10 5% 1/16W
R15	1-216-797-11	s	METAL, CHIP 10 5% 1/16W
R16	1-216-829-11	s	METAL, CHIP 4.7K 5% 1/16W
R17	1-216-829-11	s	METAL, CHIP 4.7K 5% 1/16W
R18	1-216-797-11	s	METAL, CHIP 10 5% 1/16W
R20	1-216-845-11	s	METAL, CHIP 100K 5% 1/16W
R22	1-216-821-11	s	METAL, CHIP 1K 5% 1/16W
R23	1-216-829-11	s	METAL, CHIP 4.7K 5% 1/16W
R24	1-216-829-11	s	METAL, CHIP 4.7K 5% 1/16W
R25	1-216-853-11	s	METAL, CHIP 470K 5% 1/16W
R26	1-216-821-11	s	METAL, CHIP 1K 5% 1/16W
R27	1-216-815-11	s	METAL, CHIP 330 5% 1/16W
R28	1-216-837-11	s	METAL, CHIP 22K 5% 1/16W
R29	1-216-837-11	s	METAL, CHIP 22K 5% 1/16W
R30	1-216-812-11	s	METAL, CHIP 180 5% 1/16W
R31	1-216-812-11	s	METAL, CHIP 180 5% 1/16W
R32	1-216-829-11	s	METAL, CHIP 4.7K 5% 1/16W
R33	1-216-829-11	s	METAL, CHIP 4.7K 5% 1/16W

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Ref. No. or Q'ty	Part No.	SP Description
R35	1-216-797-11	s METAL, CHIP 10 5% 1/16W
R36	1-216-797-11	s METAL, CHIP 10 5% 1/16W
R38	1-216-797-11	s METAL, CHIP 10 5% 1/16W
R39	1-216-834-11	s METAL, CHIP 12K 5% 1/16W
R40	1-216-821-11	s METAL, CHIP 1K 5% 1/16W
R41	1-216-845-11	s METAL, CHIP 100K 5% 1/16W
R42	1-216-849-11	s METAL, CHIP 220K 5% 1/16W
R43	1-216-845-11	s METAL, CHIP 100K 5% 1/16W
R44	1-216-845-11	s METAL, CHIP 100K 5% 1/16W
R46	1-216-797-11	s METAL, CHIP 10 5% 1/16W
R47	1-216-849-11	s METAL, CHIP 220K 5% 1/16W
R48	1-216-830-11	s METAL, CHIP 5.6K 5% 1/16W
R49	1-216-841-11	s METAL, CHIP 47K 5% 1/16W
R50	1-216-841-11	s METAL, CHIP 47K 5% 1/16W
R51	1-216-841-11	s METAL, CHIP 47K 5% 1/16W
R52	1-216-841-11	s METAL, CHIP 47K 5% 1/16W
R53	1-218-675-11	s CHIP, METAL 200 0.50% 1/16W
R54	1-216-841-11	s METAL, CHIP 47K 5% 1/16W
R200	1-216-845-11	s METAL, CHIP 100K 5% 1/16W
R201	1-216-845-11	s METAL, CHIP 100K 5% 1/16W
R202	1-216-841-11	s METAL, CHIP 47K 5% 1/16W
R203	1-216-841-11	s METAL, CHIP 47K 5% 1/16W
R204	1-216-837-11	s METAL, CHIP 22K 5% 1/16W
R205	1-216-809-11	s METAL, CHIP 100 5% 1/16W
R206	1-216-833-11	s METAL, CHIP 10K 5% 1/16W
R207	1-216-833-11	s METAL, CHIP 10K 5% 1/16W
R208	1-216-837-11	s METAL, CHIP 22K 5% 1/16W
R210	1-216-845-11	s METAL, CHIP 100K 5% 1/16W
R211	1-216-845-11	s METAL, CHIP 100K 5% 1/16W
R212	1-216-849-11	s METAL, CHIP 220K 5% 1/16W
R214	1-216-833-11	s METAL, CHIP 10K 5% 1/16W
R215	1-216-833-11	s METAL, CHIP 10K 5% 1/16W
R218	1-216-837-11	s METAL, CHIP 22K 5% 1/16W
R219	1-216-809-11	s METAL, CHIP 100 5% 1/16W
R220	1-216-841-11	s METAL, CHIP 47K 5% 1/16W
R221	1-216-845-11	s METAL, CHIP 100K 5% 1/16W
R222	1-216-845-11	s METAL, CHIP 100K 5% 1/16W
R223	1-216-841-11	s METAL, CHIP 47K 5% 1/16W
R224	1-216-841-11	s METAL, CHIP 47K 5% 1/16W
R232	1-216-841-11	s METAL, CHIP 47K 5% 1/16W
R234	1-216-841-11	s METAL, CHIP 47K 5% 1/16W
R235	1-216-845-11	s METAL, CHIP 100K 5% 1/16W
R236	1-216-845-11	s METAL, CHIP 100K 5% 1/16W
R237	1-216-797-11	s METAL, CHIP 10 5% 1/16W
R238	1-216-845-11	s METAL, CHIP 100K 5% 1/16W
R240	1-216-837-11	s METAL, CHIP 22K 5% 1/16W
R241	1-216-837-11	s METAL, CHIP 22K 5% 1/16W
R242	1-216-837-11	s METAL, CHIP 22K 5% 1/16W
R250	1-216-845-11	s METAL, CHIP 100K 5% 1/16W
R300	1-216-809-11	s METAL, CHIP 100 5% 1/16W
R301	1-216-809-11	s METAL, CHIP 100 5% 1/16W
R302	1-216-821-11	s METAL, CHIP 1K 5% 1/16W
R303	1-216-845-11	s METAL, CHIP 100K 5% 1/16W
R304	1-216-848-11	s METAL, CHIP 180K 5% 1/16W
R305	1-216-845-11	s METAL, CHIP 100K 5% 1/16W
R306	1-216-833-11	s METAL, CHIP 10K 5% 1/16W
R307	1-216-833-11	s METAL, CHIP 10K 5% 1/16W
R308	1-216-833-11	s METAL, CHIP 10K 5% 1/16W
R309	1-216-833-11	s METAL, CHIP 10K 5% 1/16W

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Ref. No. or Q'ty	Part No.	SP Description
R310	1-216-805-11	s METAL, CHIP 47 5% 1/16W
R311	1-216-821-11	s METAL, CHIP 1K 5% 1/16W
R312	1-216-833-11	s METAL, CHIP 10K 5% 1/16W
R313	1-216-805-11	s METAL, CHIP 47 5% 1/16W
R314	1-216-805-11	s METAL, CHIP 47 5% 1/16W
R315	1-216-820-11	s METAL, CHIP 820 5% 1/16W
R316	1-216-809-11	s METAL, CHIP 100 5% 1/16W
R317	1-216-809-11	s METAL, CHIP 100 5% 1/16W
R318	1-216-809-11	s METAL, CHIP 100 5% 1/16W
R319	1-218-606-11	s CHIP, METAL 2.2 5% 1W
R320	1-216-805-11	s METAL, CHIP 47 5% 1/16W
R321	1-216-829-11	s METAL, CHIP 4.7K 5% 1/16W
R322	1-216-820-11	s METAL, CHIP 820 5% 1/16W
R323	1-218-606-11	s CHIP, METAL 2.2 5% 1W
R324	1-216-805-11	s METAL, CHIP 47 5% 1/16W
R325	1-216-829-11	s METAL, CHIP 4.7K 5% 1/16W
R326	1-216-845-11	s METAL, CHIP 100K 5% 1/16W
R327	1-216-845-11	s METAL, CHIP 100K 5% 1/16W
R328	1-216-845-11	s METAL, CHIP 100K 5% 1/16W
RV40	1-237-036-11	s RES, ADJ METAL 10K
RV200	1-237-038-11	s RES, ADJ, METAL 50K
RV300	1-237-038-11	s RES, ADJ, METAL 50K
RV301	1-237-038-11	s RES, ADJ, METAL 50K
S200	1-570-711-11	s SWITCH, SLIDE
S201	1-570-711-11	s SWITCH, SLIDE

CN-986 BOARD

Ref. No. or Q'ty	Part No.	SP Description
1pc	1-653-467-21	o PRINTED CIRCUIT BOARD, CN-986
CN51	1-564-241-11	o PIN, CONNECTOR (B4P-VH) 4P
CN52	1-564-320-00	s PIN, CONNECTOR (B2P-VH) 2P
CN53	1-564-243-11	o PIN, CONNECTOR 6P
CN54	1-564-104-00	o PIN, CONNECTOR (B3P-VH) 3P

CN-988/989/990 BOARD

Ref. No. or Q'ty	Part No.	SP Description
1pc	1-709-123-21	o PRINTED CIRCUIT BOARD, COMBINED CN-988/989/990(ZX-304)

CN-1142 BOARD

Ref. No. or Q'ty	Part No.	SP Description
1pc	A-8272-559-A	o MOUNTED CIRCUIT BOARD, CN-1142

CN-1231 BOARD

Ref. No. or Q'ty	Part No.	SP Description
1pc	1-658-604-21	o PRINTED CIRCUIT BOARD, CN-1231
C12	1-163-275-11	s CERAMIC 0.001uF 5% 50V
C13	1-163-275-11	s CERAMIC 0.001uF 5% 50V
C14	1-163-275-11	s CERAMIC 0.001uF 5% 50V
C15	1-163-275-11	s CERAMIC 0.001uF 5% 50V
CN2	1-580-531-11	o PIN, CONNECTOR 4P

CN-1232 BOARD

Ref. No. or Q'ty	Part No.	SP Description
1pc	1-658-603-21	o PRINTED CIRCUIT BOARD, CN-1232
6pcs	2-280-622-01	o SUPPORT (M3), HEXAGON
6pcs	7-682-544-04	s SCREW +B 3X3
C1	1-162-974-11	s CERAMIC 0.01uF 50V
C2	1-162-974-11	s CERAMIC 0.01uF 50V
C3	1-162-974-11	s CERAMIC 0.01uF 50V
C4	1-162-974-11	s CERAMIC 0.01uF 50V
C5	1-162-974-11	s CERAMIC 0.01uF 50V
C6	1-162-974-11	s CERAMIC 0.01uF 50V
C7	1-162-974-11	s CERAMIC 0.01uF 50V
C8	1-162-974-11	s CERAMIC 0.01uF 50V
C9	1-162-974-11	s CERAMIC 0.01uF 50V
C10	1-162-974-11	s CERAMIC 0.01uF 50V
C11	1-162-974-11	s CERAMIC 0.01uF 50V
C12	1-162-974-11	s CERAMIC 0.01uF 50V
C13	1-162-974-11	s CERAMIC 0.01uF 50V
CN1	1-750-934-21	o PIN, CONNECTOR 20P
CN2	1-568-337-21	o CONNECTOR, BOARD TO BOARD 22P
CN3	1-568-331-11	s CONNECTOR, BOARD TO BOARD 10P

CN-1239A/1239B BOARD

Ref. No. or Q'ty	Part No.	SP Description
1pc	1-658-609-21	o PRINTED CIRCUIT BOARD, CN-1239
C1	1-163-275-11	s CERAMIC 0.001uF 5% 50V
C2	1-163-275-11	s CERAMIC 0.001uF 5% 50V
C3	1-163-275-11	s CERAMIC 0.001uF 5% 50V
C4	1-163-275-11	s CERAMIC 0.001uF 5% 50V
C5	1-163-275-11	s CERAMIC 0.001uF 5% 50V
C6	1-163-275-11	s CERAMIC 0.001uF 5% 50V
CN43	1-750-933-21	o PIN, CONNECTOR 12P
JC2	1-216-295-11	s CHIP, CONDUCTOR 0
JC3	1-216-295-11	s CHIP, CONDUCTOR 0
JC6	1-216-295-11	s CHIP, CONDUCTOR 0
JC7	1-216-295-11	s CHIP, CONDUCTOR 0

DA-88 BOARD

Ref. No. or Q'ty	Part No.	SP Description
1pc	A-8272-566-A	o MOUNTED CIRCUIT BOARD, DA-88
1pc	3-692-128-02	o PANEL, DA-88 PC BOARD
1pc	3-724-753-01	o RING
6pcs	3-729-061-01	s SCREW (M2X4.5) (TYPE 1)
C1	1-135-215-21	s TANTALUM, CHIP 6.8uF 20% 16V
C2	1-135-160-21	s CHIP, TANTALUM 15uF 10% 16V
C3	1-164-156-11	s CERAMIC 0.1uF 25V
C4	1-164-156-11	s CERAMIC 0.1uF 25V
C5	1-135-177-21	s TANTALUM, CHIP 1uF 10% 25V
C6	1-135-160-21	s CHIP, TANTALUM 15uF 10% 16V
C7	1-164-156-11	s CERAMIC 0.1uF 25V
C8	1-162-923-11	s CERAMIC, CHIP 47PF 5% 50V
C9	1-165-176-11	s CERAMIC, CHIP 0.047uF 10% 16V
C10	1-135-160-21	s CHIP, TANTALUM 15uF 10% 16V
C11	1-164-156-11	s CERAMIC 0.1uF 25V
C12	1-164-156-11	s CERAMIC 0.1uF 25V
C13	1-135-177-21	s TANTALUM, CHIP 1uF 10% 25V
C14	1-135-160-21	s CHIP, TANTALUM 15uF 10% 16V
C15	1-164-156-11	s CERAMIC 0.1uF 25V
C16	1-135-216-11	s TANTALUM, CHIP 10uF 20% 10V
C17	1-135-216-11	s TANTALUM, CHIP 10uF 20% 10V
C18	1-164-156-11	s CERAMIC 0.1uF 25V
C19	1-164-156-11	s CERAMIC 0.1uF 25V
C20	1-135-177-21	s TANTALUM, CHIP 1uF 10% 25V
C21	1-162-915-11	s CERAMIC, CHIP 10PF 5PF 50V
C23	1-164-156-11	s CERAMIC 0.1uF 25V
C24	1-164-156-11	s CERAMIC 0.1uF 25V
C25	1-135-215-21	s TANTALUM, CHIP 6.8uF 20% 16V
C26	1-135-216-11	s TANTALUM, CHIP 10uF 20% 10V
C27	1-135-216-11	s TANTALUM, CHIP 10uF 20% 10V
C28	1-135-216-11	s TANTALUM, CHIP 10uF 20% 10V
C29	1-164-156-11	s CERAMIC 0.1uF 25V
C30	1-164-156-11	s CERAMIC 0.1uF 25V
C31	1-164-156-11	s CERAMIC 0.1uF 25V
C32	1-164-156-11	s CERAMIC 0.1uF 25V
C33	1-162-970-11	s CERAMIC, CHIP 0.01uF 10% 25V
C34	1-135-216-11	s TANTALUM, CHIP 10uF 20% 10V
C35	1-164-156-11	s CERAMIC 0.1uF 25V
C36	1-164-156-11	s CERAMIC 0.1uF 25V
C37	1-164-156-11	s CERAMIC 0.1uF 25V
C38	1-164-156-11	s CERAMIC 0.1uF 25V
C39	1-162-970-11	s CERAMIC, CHIP 0.01uF 10% 25V
C40	1-135-160-21	s CHIP, TANTALUM 15uF 10% 16V
C41	1-164-156-11	s CERAMIC 0.1uF 25V
C42	1-164-156-11	s CERAMIC 0.1uF 25V
C43	1-164-156-11	s CERAMIC 0.1uF 25V
C44	1-164-156-11	s CERAMIC 0.1uF 25V
C45	1-162-919-11	s CERAMIC, CHIP 22PF 5% 50V
C46	1-162-970-11	s CERAMIC, CHIP 0.01uF 10% 25V
C47	1-164-156-11	s CERAMIC 0.1uF 25V
C48	1-162-913-11	s CERAMIC 8PF 0.5PF 50V
C49	1-162-907-11	s CERAMIC, CHIP 2PF 50V
C50	1-164-156-11	s CERAMIC 0.1uF 25V
C51	1-164-156-11	s CERAMIC 0.1uF 25V
C52	1-164-156-11	s CERAMIC 0.1uF 25V
C53	1-164-156-11	s CERAMIC 0.1uF 25V
C54	1-135-215-21	s TANTALUM, CHIP 6.8uF 20% 16V
C55	1-135-177-21	s TANTALUM, CHIP 1uF 10% 25V
C56	1-135-177-21	s TANTALUM, CHIP 1uF 10% 25V

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Ref. No. or Q'ty	Part No.	SP Description
C57	1-135-177-21	s TANTALUM, CHIP 1uF 10% 25V
C58	1-135-177-21	s TANTALUM, CHIP 1uF 10% 25V
C59	1-164-315-11	s CERAMIC 470PF 5% 50V
C61	1-135-216-11	s TANTALUM, CHIP 10uF 20% 10V
C64	1-162-905-11	s CERAMIC 1PF 0.25PF 50V
C65	1-162-915-11	s CERAMIC, CHIP 10PF 5PF 50V
C66	1-162-921-11	s CERAMIC, CHIP 33PF 5% 50V
C67	1-162-970-11	s CERAMIC, CHIP 0.01uF 10% 25V
C68	1-164-156-11	s CERAMIC 0.1uF 25V
C69	1-164-156-11	s CERAMIC 0.1uF 25V
C70	1-162-913-11	s CERAMIC 8PF 0.5PF 50V
C71	1-162-907-11	s CERAMIC, CHIP 2PF 50V
C72	1-164-156-11	s CERAMIC 0.1uF 25V
C73	1-164-156-11	s CERAMIC 0.1uF 25V
C74	1-164-156-11	s CERAMIC 0.1uF 25V
C75	1-164-156-11	s CERAMIC 0.1uF 25V
C76	1-135-162-21	s TANTALUM, CHIP 33uF 10% 6.3V
C77	1-135-215-21	s TANTALUM, CHIP 6.8uF 20% 16V
C81	1-162-970-11	s CERAMIC, CHIP 0.01uF 10% 25V
C82	1-164-156-11	s CERAMIC 0.1uF 25V
C83	1-135-215-21	s TANTALUM, CHIP 6.8uF 20% 16V
C84	1-162-970-11	s CERAMIC, CHIP 0.01uF 10% 25V
C85	1-162-918-11	s CERAMIC, CHIP 18PF 5% 50V
C87	1-162-905-11	s CERAMIC 1PF 0.25PF 50V
C88	1-162-921-11	s CERAMIC, CHIP 33PF 5% 50V
C89	1-162-919-11	s CERAMIC, CHIP 22PF 5% 50V
C90	1-162-911-11	s CERAMIC, CHIP 6PF 50V
C92	1-164-156-11	s CERAMIC 0.1uF 25V
C93	1-135-160-21	s CHIP, TANTALUM 15uF 10% 16V
C95	1-164-156-11	s CERAMIC 0.1uF 25V
C96	1-164-156-11	s CERAMIC 0.1uF 25V
C97	1-164-156-11	s CERAMIC 0.1uF 25V
C98	1-164-156-11	s CERAMIC 0.1uF 25V
C99	1-135-215-21	s TANTALUM, CHIP 6.8uF 20% 16V
C100	1-162-907-11	s CERAMIC, CHIP 2PF 50V
C101	1-135-177-21	s TANTALUM, CHIP 1uF 10% 25V
C102	1-135-177-21	s TANTALUM, CHIP 1uF 10% 25V
C103	1-135-177-21	s TANTALUM, CHIP 1uF 10% 25V
C104	1-135-177-21	s TANTALUM, CHIP 1uF 10% 25V
C105	1-164-315-11	s CERAMIC 470PF 5% 50V
C106	1-164-156-11	s CERAMIC 0.1uF 25V
C107	1-135-215-21	s TANTALUM, CHIP 6.8uF 20% 16V
C109	1-164-156-11	s CERAMIC 0.1uF 25V
C110	1-135-160-21	s CHIP, TANTALUM 15uF 10% 16V
C113	1-162-905-11	s CERAMIC 1PF 0.25PF 50V
C114	1-162-915-11	s CERAMIC, CHIP 10PF 5PF 50V
C115	1-162-927-11	s CERAMIC, CHIP 100PF 5% 50V
C118	1-164-156-11	s CERAMIC 0.1uF 25V
C119	1-164-156-11	s CERAMIC 0.1uF 25V
C120	1-164-156-11	s CERAMIC 0.1uF 25V
C121	1-164-156-11	s CERAMIC 0.1uF 25V
C122	1-135-215-21	s TANTALUM, CHIP 6.8uF 20% 16V
C123	1-162-907-11	s CERAMIC, CHIP 2PF 50V
C124	1-135-177-21	s TANTALUM, CHIP 1uF 10% 25V
C125	1-135-177-21	s TANTALUM, CHIP 1uF 10% 25V
C126	1-135-177-21	s TANTALUM, CHIP 1uF 10% 25V
C127	1-135-177-21	s TANTALUM, CHIP 1uF 10% 25V
C128	1-164-156-11	s CERAMIC 0.1uF 25V
C129	1-135-215-21	s TANTALUM, CHIP 6.8uF 20% 16V

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Ref. No. or Q'ty	Part No.	SP	Description
C132	1-162-905-11	s	CERAMIC 1PF 0.25PF 50V
C133	1-162-915-11	s	CERAMIC, CHIP 10PF 5PF 50V
C134	1-162-921-11	s	CERAMIC, CHIP 33PF 5% 50V
C136	1-162-915-11	s	CERAMIC, CHIP 10PF 5PF 50V
C137	1-162-921-11	s	CERAMIC, CHIP 33PF 5% 50V
C138	1-162-970-11	s	CERAMIC, CHIP 0.01uF 10% 25V
C140	1-164-156-11	s	CERAMIC 0.1uF 25V
C141	1-164-156-11	s	CERAMIC 0.1uF 25V
C142	1-164-156-11	s	CERAMIC 0.1uF 25V
C143	1-164-156-11	s	CERAMIC 0.1uF 25V
C144	1-135-215-21	s	TANTALUM, CHIP 6.8uF 20% 16V
C145	1-162-907-11	s	CERAMIC, CHIP 2PF 50V
C146	1-135-177-21	s	TANTALUM, CHIP 1uF 10% 25V
C147	1-135-177-21	s	TANTALUM, CHIP 1uF 10% 25V
C148	1-135-177-21	s	TANTALUM, CHIP 1uF 10% 25V
C149	1-135-177-21	s	TANTALUM, CHIP 1uF 10% 25V
C150	1-164-156-11	s	CERAMIC 0.1uF 25V
C151	1-135-215-21	s	TANTALUM, CHIP 6.8uF 20% 16V
C154	1-162-905-11	s	CERAMIC 1PF 0.25PF 50V
C155	1-162-915-11	s	CERAMIC, CHIP 10PF 5PF 50V
C166	1-135-216-11	s	TANTALUM, CHIP 10uF 20% 10V
C167	1-164-156-11	s	CERAMIC 0.1uF 25V
C169	1-135-215-21	s	TANTALUM, CHIP 6.8uF 20% 16V
C170	1-135-215-21	s	TANTALUM, CHIP 6.8uF 20% 16V
C171	1-135-215-21	s	TANTALUM, CHIP 6.8uF 20% 16V
C172	1-135-215-21	s	TANTALUM, CHIP 6.8uF 20% 16V
C200	1-164-156-11	s	CERAMIC 0.1uF 25V
C201	1-164-156-11	s	CERAMIC 0.1uF 25V
C202	1-135-215-21	s	TANTALUM, CHIP 6.8uF 20% 16V
C203	1-162-907-11	s	CERAMIC, CHIP 2PF 50V
C204	1-164-156-11	s	CERAMIC 0.1uF 25V
C205	1-162-907-11	s	CERAMIC, CHIP 2PF 50V
C206	1-135-215-21	s	TANTALUM, CHIP 6.8uF 20% 16V
C207	1-164-156-11	s	CERAMIC 0.1uF 25V
C208	1-135-215-21	s	TANTALUM, CHIP 6.8uF 20% 16V
C209	1-164-156-11	s	CERAMIC 0.1uF 25V
C210	1-135-215-21	s	TANTALUM, CHIP 6.8uF 20% 16V
C211	1-164-156-11	s	CERAMIC 0.1uF 25V
C213	1-162-909-11	s	CERAMIC 4PF 0.25PF 50V
C214	1-164-156-11	s	CERAMIC 0.1uF 25V
C215	1-135-215-21	s	TANTALUM, CHIP 6.8uF 20% 16V
C216	1-164-156-11	s	CERAMIC 0.1uF 25V
C217	1-135-215-21	s	TANTALUM, CHIP 6.8uF 20% 16V
C218	1-164-156-11	s	CERAMIC 0.1uF 25V
C219	1-164-156-11	s	CERAMIC 0.1uF 25V
C220	1-164-156-11	s	CERAMIC 0.1uF 25V
C221	1-164-156-11	s	CERAMIC 0.1uF 25V
C222	1-164-156-11	s	CERAMIC 0.1uF 25V
C223	1-162-915-11	s	CERAMIC, CHIP 10PF 5PF 50V
C225	1-162-915-11	s	CERAMIC, CHIP 10PF 5PF 50V
C226	1-162-915-11	s	CERAMIC, CHIP 10PF 5PF 50V
C228	1-135-160-21	s	CHIP, TANTALUM 15uF 10% 16V
C229	1-162-908-11	s	CERAMIC 3PF 0.25PF 50V
C230	1-162-908-11	s	CERAMIC 3PF 0.25PF 50V
C231	1-162-908-11	s	CERAMIC 3PF 0.25PF 50V
C500	1-162-905-11	s	CERAMIC 1PF 0.25PF 50V
D1	8-719-029-63	s	DIODE RD4.3UH-T1
D2	8-719-029-63	s	DIODE RD4.3UH-T1

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Ref. No. or Q'ty	Part No.	SP	Description
D3	8-719-029-63	s	DIODE RD4.3UH-T1
D5	8-719-820-41	s	DIODE 1SS302
D6	8-719-820-41	s	DIODE 1SS302
D7	8-719-820-41	s	DIODE 1SS302
D9	8-719-820-41	s	DIODE 1SS302
D10	8-719-820-41	s	DIODE 1SS302
D11	8-719-820-41	s	DIODE 1SS302
D12	8-719-820-41	s	DIODE 1SS302
D13	8-719-820-41	s	DIODE 1SS302
D14	8-719-820-41	s	DIODE 1SS302
D15	8-719-820-41	s	DIODE 1SS302
D16	8-719-820-41	s	DIODE 1SS302
D17	8-719-820-41	s	DIODE 1SS302
D24	8-719-820-41	s	DIODE 1SS302
D25	8-719-820-41	s	DIODE 1SS302
D26	8-719-820-41	s	DIODE 1SS302
D100	8-719-820-41	s	DIODE 1SS302
D101	8-719-820-41	s	DIODE 1SS302
D102	8-719-820-41	s	DIODE 1SS302
FL1	1-239-754-11	s	FILTER, LOW PASS
FL2	1-239-753-11	s	FILTER, LOW PASS
FL3	1-233-240-21	s	FILTER, LOW PASS
FL4	1-239-753-11	s	FILTER, LOW PASS
FL5	1-233-240-21	s	FILTER, LOW PASS
FL6	1-239-754-11	s	FILTER, LOW PASS
FL7	1-239-754-11	s	FILTER, LOW PASS
FL8	1-239-754-11	s	FILTER, LOW PASS
IC1	8-759-066-68	s	IC REF-03GS
IC2	8-759-076-06	s	IC TL064CPW
IC3	8-759-632-39	s	IC M51958A-T1
IC4	8-752-360-44	s	IC CXK1203AR
IC5	8-752-360-44	s	IC CXK1203AR
IC6	8-752-360-44	s	IC CXK1203AR
IC7	8-752-363-60	s	IC CXD2307R-T4
IC8	8-759-079-46	s	IC TC74VHC00FS(EL)
IC9	8-759-058-54	s	IC TC7S00FU(TE85R)
IC10	8-759-086-42	s	IC X24C02S-3.0-C7000
IC11	8-759-058-58	s	IC TC7S04FU(TE85R)
IC12	8-759-058-62	s	IC TC7S08FU(TE85R)
IC13	8-759-237-79	s	IC TC74HC595AF(EL)
IC14	8-759-064-36	s	IC MB88346BPFV
IC15	8-759-082-61	s	IC TC4W53FU
IC16	8-759-981-48	s	IC TL082M
IC17	8-759-082-61	s	IC TC4W53FU
IC18	8-759-082-61	s	IC TC4W53FU
IC19	8-759-079-85	s	IC TC74VHC244FS(EL)
IC20	8-759-082-61	s	IC TC4W53FU
IC23	8-759-287-54	s	IC TL084CPW-E20
IC24	8-759-082-61	s	IC TC4W53FU
IC25	8-759-089-61	s	IC TC74HC4052AFS(EL)
IC26	8-759-066-59	s	IC TC74HC4053AFS
IC27	8-759-287-54	s	IC TL084CPW-E20
IC28	8-759-089-61	s	IC TC74HC4052AFS(EL)
IC29	8-759-082-61	s	IC TC4W53FU
IC34	8-759-271-86	s	IC TC7SH04FU
IC35	8-759-180-08	s	IC TC74HC4538AFS
IC36	8-759-237-79	s	IC TC74HC595AF(EL)
IC37	8-759-082-59	s	IC TC7W32FU

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Ref. No. or Q'ty	Part No.	SP	Description
IC100	8-759-058-62	s	IC TC7S08FU(TE85R)
IC101	8-759-058-58	s	IC TC7S04FU(TE85R)
IC102	8-759-082-59	s	IC TC7W32FU
IC103	8-759-058-64	s	IC TC7S32FU(TE85R)
IC104	8-759-058-54	s	IC TC7S00FU(TE85R)
IC105	8-759-058-64	s	IC TC7S32FU(TE85R)
IC106	8-759-058-62	s	IC TC7S08FU(TE85R)
IC107	8-759-196-96	s	IC TC7SH08FU-TE85R
IC108	8-759-058-54	s	IC TC7S00FU(TE85R)
IC109	8-759-058-62	s	IC TC7S08FU(TE85R)
IC110	8-759-058-58	s	IC TC7S04FU(TE85R)
JR1	1-216-864-11	s	METAL, CHIP 0 5% 1/16W
JR2	1-216-864-11	s	METAL, CHIP 0 5% 1/16W
JR3	1-216-864-11	s	METAL, CHIP 0 5% 1/16W
JR4	1-216-864-11	s	METAL, CHIP 0 5% 1/16W
L1	1-410-737-31	s	INDUCTOR CHIP 0.47UH
L2	1-410-737-31	s	INDUCTOR CHIP 0.47UH
L3	1-410-737-31	s	INDUCTOR CHIP 0.47UH
L4	1-410-737-31	s	INDUCTOR CHIP 0.47UH
L5	1-410-737-31	s	INDUCTOR CHIP 0.47UH
L6	1-410-737-31	s	INDUCTOR CHIP 0.47UH
L7	1-410-737-31	s	INDUCTOR CHIP 0.47UH
L8	1-410-737-31	s	INDUCTOR CHIP 0.47UH
L9	1-410-385-11	s	INDUCTOR, CHIP 22uH
L10	1-410-385-11	s	INDUCTOR, CHIP 22uH
L11	1-410-385-11	s	INDUCTOR, CHIP 22uH
L12	1-410-392-11	s	INDUCTOR, CHIP 82uH
L13	1-410-737-31	s	INDUCTOR CHIP 0.47UH
L14	1-410-737-31	s	INDUCTOR CHIP 0.47UH
L15	1-410-737-31	s	INDUCTOR CHIP 0.47UH
L16	1-410-737-31	s	INDUCTOR CHIP 0.47UH
L17	1-410-737-31	s	INDUCTOR CHIP 0.47UH
L18	1-410-737-31	s	INDUCTOR CHIP 0.47UH
L19	1-410-737-31	s	INDUCTOR CHIP 0.47UH
L20	1-410-737-31	s	INDUCTOR CHIP 0.47UH
L21	1-410-737-31	s	INDUCTOR CHIP 0.47UH
L22	1-410-737-31	s	INDUCTOR CHIP 0.47UH
L23	1-410-737-31	s	INDUCTOR CHIP 0.47UH
L24	1-410-389-31	s	INDUCTOR CHIP 47uH
L25	1-410-385-11	s	INDUCTOR, CHIP 22uH
Q1	8-729-141-48	s	TRANSISTOR 2SB624-BV345
Q2	8-729-141-75	s	TRANSISTOR 2SD596DV345
Q3	8-729-141-75	s	TRANSISTOR 2SD596DV345
Q4	8-729-117-73	s	TRANSISTOR 2SC4178-F14
Q7	8-729-117-32	s	TRANSISTOR 2SC4177
Q8	8-729-117-16	s	TRANSISTOR 2SA1611-M6
Q9	8-729-117-73	s	TRANSISTOR 2SC4178-F14
Q10	8-729-117-73	s	TRANSISTOR 2SC4178-F14
Q11	8-729-117-73	s	TRANSISTOR 2SC4178-F14
Q12	8-729-117-73	s	TRANSISTOR 2SC4178-F14
Q13	8-729-122-63	s	TRANSISTOR 2SA1226
Q14	8-729-122-63	s	TRANSISTOR 2SA1226
Q15	8-729-122-63	s	TRANSISTOR 2SA1226
Q16	8-729-117-32	s	TRANSISTOR 2SC4177
Q17	8-729-122-63	s	TRANSISTOR 2SA1226
Q18	8-729-142-90	s	TRANSISTOR 2SK853-K5
Q19	8-729-403-32	s	TRANSISTOR XN6534
Q20	8-729-920-48	s	TRANSISTOR IMH2

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Ref. No. or Q'ty	Part No.	SP	Description
Q22	8-729-122-63	s	TRANSISTOR 2SA1226
Q23	8-729-102-08	s	TRANSISTOR 2SC2223-F14
Q25	8-729-117-32	s	TRANSISTOR 2SC4177
Q26	8-729-117-16	s	TRANSISTOR 2SA1611-M6
Q27	8-729-117-73	s	TRANSISTOR 2SC4178-F14
Q28	8-729-117-73	s	TRANSISTOR 2SC4178-F14
Q29	8-729-117-73	s	TRANSISTOR 2SC4178-F14
Q30	8-729-117-73	s	TRANSISTOR 2SC4178-F14
Q32	8-729-122-63	s	TRANSISTOR 2SA1226
Q33	8-729-102-08	s	TRANSISTOR 2SC2223-F14
Q34	8-729-102-08	s	TRANSISTOR 2SC2223-F14
Q43	8-729-403-32	s	TRANSISTOR XN6534
Q44	8-729-102-08	s	TRANSISTOR 2SC2223-F14
Q45	8-729-117-16	s	TRANSISTOR 2SA1611-M6
Q46	8-729-920-48	s	TRANSISTOR IMH2
Q47	8-729-117-32	s	TRANSISTOR 2SC4177
Q48	8-729-117-73	s	TRANSISTOR 2SC4178-F14
Q49	8-729-122-63	s	TRANSISTOR 2SA1226
Q50	8-729-122-63	s	TRANSISTOR 2SA1226
Q51	8-729-122-63	s	TRANSISTOR 2SA1226
Q52	8-729-117-32	s	TRANSISTOR 2SC4177
Q53	8-729-122-63	s	TRANSISTOR 2SA1226
Q54	8-729-142-90	s	TRANSISTOR 2SK853-K5
Q59	8-729-403-32	s	TRANSISTOR XN6534
Q63	8-729-102-08	s	TRANSISTOR 2SC2223-F14
Q67	8-729-117-73	s	TRANSISTOR 2SC4178-F14
Q68	8-729-122-63	s	TRANSISTOR 2SA1226
Q69	8-729-122-63	s	TRANSISTOR 2SA1226
Q70	8-729-117-32	s	TRANSISTOR 2SC4177
Q71	8-729-122-63	s	TRANSISTOR 2SA1226
Q72	8-729-142-90	s	TRANSISTOR 2SK853-K5
Q73	8-729-122-63	s	TRANSISTOR 2SA1226
Q75	8-729-403-32	s	TRANSISTOR XN6534
Q79	8-729-102-08	s	TRANSISTOR 2SC2223-F14
Q83	8-729-117-32	s	TRANSISTOR 2SC4177
Q84	8-729-117-16	s	TRANSISTOR 2SA1611-M6
Q85	8-729-117-73	s	TRANSISTOR 2SC4178-F14
Q86	8-729-122-63	s	TRANSISTOR 2SA1226
Q87	8-729-122-63	s	TRANSISTOR 2SA1226
Q88	8-729-122-63	s	TRANSISTOR 2SA1226
Q89	8-729-117-32	s	TRANSISTOR 2SC4177
Q90	8-729-122-63	s	TRANSISTOR 2SA1226
Q91	8-729-142-90	s	TRANSISTOR 2SK853-K5
Q92	8-729-122-63	s	TRANSISTOR 2SA1226
Q94	8-729-403-32	s	TRANSISTOR XN6534
Q98	8-729-102-08	s	TRANSISTOR 2SC2223-F14
Q100	8-729-403-32	s	TRANSISTOR XN6534
Q101	8-729-102-08	s	TRANSISTOR 2SC2223-F14
Q102	8-729-122-63	s	TRANSISTOR 2SA1226
Q103	8-729-403-32	s	TRANSISTOR XN6534
Q104	8-729-102-08	s	TRANSISTOR 2SC2223-F14
Q105	8-729-029-14	s	TRANSISTOR DTC144EUA-T106
Q106	8-729-029-14	s	TRANSISTOR DTC144EUA-T106
Q107	8-729-102-08	s	TRANSISTOR 2SC2223-F14
Q108	8-729-102-08	s	TRANSISTOR 2SC2223-F14
Q109	8-729-102-08	s	TRANSISTOR 2SC2223-F14
Q110	8-729-102-08	s	TRANSISTOR 2SC2223-F14
Q111	8-729-102-08	s	TRANSISTOR 2SC2223-F14
Q112	8-729-102-08	s	TRANSISTOR 2SC2223-F14

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Ref. No. or Q'ty	Part No.	SP	Description
Q113	8-729-102-08	s	TRANSISTOR 2SC2223-F14
Q114	8-729-102-08	s	TRANSISTOR 2SC2223-F14
Q115	8-729-102-08	s	TRANSISTOR 2SC2223-F14
Q117	8-729-122-63	s	TRANSISTOR 2SA1226
R1	1-216-864-11	s	METAL, CHIP 0 5% 1/16W
R2	1-216-845-11	s	METAL, CHIP 100K 5% 1/16W
R3	1-216-821-11	s	METAL, CHIP 1K 5% 1/16W
R4	1-218-677-11	s	CHIP, METAL 240 0.50% 1/16W
R5	1-218-723-11	s	METAL 20K 0.50% 1/16W
R6	1-218-724-11	s	CHIP, METAL 22K 5% 1/16W
R7	1-216-821-11	s	METAL, CHIP 1K 5% 1/16W
R8	1-216-809-11	s	METAL, CHIP 100 5% 1/16W
R9	1-216-864-11	s	METAL, CHIP 0 5% 1/16W
R10	1-218-724-11	s	CHIP, METAL 22K 5% 1/16W
R11	1-218-724-11	s	CHIP, METAL 22K 5% 1/16W
R12	1-218-729-11	s	CHIP, METAL 36K 0.50% 1/16W
R13	1-216-864-11	s	METAL, CHIP 0 5% 1/16W
R14	1-218-723-11	s	METAL 20K 0.50% 1/16W
R15	1-216-805-11	s	METAL, CHIP 47 5% 1/16W
R16	1-216-821-11	s	METAL, CHIP 1K 5% 1/16W
R17	1-218-676-11	s	METAL 220 0.50% 1/16W
R18	1-218-698-11	s	METAL 1.8K 0.50% 1/16W
R19	1-218-676-11	s	METAL 220 0.50% 1/16W
R20	1-216-805-11	s	METAL, CHIP 47 5% 1/16W
R21	1-218-704-11	s	METAL 3.3K 0.50% 1/16W
R22	1-216-805-11	s	METAL, CHIP 47 5% 1/16W
R23	1-220-158-91	s	CHIP, METAL 3.6K 5% 1/16W
R24	1-216-809-11	s	METAL, CHIP 100 5% 1/16W
R25	1-216-832-11	s	METAL, CHIP 8.2K 5% 1/16W
R26	1-216-803-11	s	METAL, CHIP 33 5% 1/16W
R27	1-216-864-11	s	METAL, CHIP 0 5% 1/16W
R33	1-216-845-11	s	METAL, CHIP 100K 5% 1/16W
R34	1-216-845-11	s	METAL, CHIP 100K 5% 1/16W
R35	1-216-845-11	s	METAL, CHIP 100K 5% 1/16W
R36	1-216-845-11	s	METAL, CHIP 100K 5% 1/16W
R37	1-216-845-11	s	METAL, CHIP 100K 5% 1/16W
R38	1-216-845-11	s	METAL, CHIP 100K 5% 1/16W
R39	1-218-676-11	s	METAL 220 0.50% 1/16W
R40	1-218-676-11	s	METAL 220 0.50% 1/16W
R41	1-218-676-11	s	METAL 220 0.50% 1/16W
R42	1-218-704-11	s	METAL 3.3K 0.50% 1/16W
R43	1-218-704-11	s	METAL 3.3K 0.50% 1/16W
R44	1-218-704-11	s	METAL 3.3K 0.50% 1/16W
R45	1-218-883-11	s	METAL 33K 0.50% 1/16W
R46	1-218-724-11	s	CHIP, METAL 22K 5% 1/16W
R47	1-218-730-11	s	CHIP, METAL 39K 0.50% 1/16W
R48	1-218-883-11	s	METAL 33K 0.50% 1/16W
R49	1-218-724-11	s	CHIP, METAL 22K 5% 1/16W
R50	1-218-730-11	s	CHIP, METAL 39K 0.50% 1/16W
R51	1-218-883-11	s	METAL 33K 0.50% 1/16W
R52	1-218-724-11	s	CHIP, METAL 22K 5% 1/16W
R53	1-218-730-11	s	CHIP, METAL 39K 0.50% 1/16W
R54	1-216-797-11	s	METAL, CHIP 10 5% 1/16W
R56	1-216-857-11	s	METAL, CHIP 1M 5% 1/16W
R57	1-218-676-11	s	METAL 220 0.50% 1/16W
R58	1-218-692-11	s	CHIP, METAL 1K 0.50% 1/16W
R59	1-216-805-11	s	METAL, CHIP 47 5% 1/16W
R60	1-216-805-11	s	METAL, CHIP 47 5% 1/16W
R61	1-216-829-11	s	METAL, CHIP 4.7K 5% 1/16W

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Ref. No. or Q'ty	Part No.	SP	Description
R62	1-216-829-11	s	METAL, CHIP 4.7K 5% 1/16W
R63	1-218-692-11	s	CHIP, METAL 1K 0.50% 1/16W
R64	1-218-708-11	s	METAL 4.7K 0.50% 1/16W
R65	1-218-692-11	s	CHIP, METAL 1K 0.50% 1/16W
R66	1-216-805-11	s	METAL, CHIP 47 5% 1/16W
R67	1-218-708-11	s	METAL 4.7K 0.50% 1/16W
R68	1-218-692-11	s	CHIP, METAL 1K 0.50% 1/16W
R69	1-216-805-11	s	METAL, CHIP 47 5% 1/16W
R70	1-220-158-91	s	CHIP, METAL 3.6K 5% 1/16W
R71	1-220-158-91	s	CHIP, METAL 3.6K 5% 1/16W
R72	1-216-805-11	s	METAL, CHIP 47 5% 1/16W
R73	1-216-829-11	s	METAL, CHIP 4.7K 5% 1/16W
R74	1-218-856-11	s	CHIP, METAL 2.4K 0.50% 1/16W
R75	1-218-710-11	s	CHIP, METAL 5.6K 0.50% 1/16W
R76	1-218-708-11	s	METAL 4.7K 0.50% 1/16W
R77	1-218-705-11	s	METAL 3.6K 0.50% 1/16W
R78	1-218-700-11	s	METAL 2.2K 0.50% 1/16W
R79	1-218-705-11	s	METAL 3.6K 0.50% 1/16W
R80	1-218-708-11	s	METAL 4.7K 0.50% 1/16W
R81	1-216-809-11	s	METAL, CHIP 100 5% 1/16W
R82	1-216-845-11	s	METAL, CHIP 100K 5% 1/16W
R83	1-216-845-11	s	METAL, CHIP 100K 5% 1/16W
R84	1-218-708-11	s	METAL 4.7K 0.50% 1/16W
R85	1-218-724-11	s	CHIP, METAL 22K 5% 1/16W
R87	1-218-702-11	s	CHIP, METAL 2.7K 0.50% 1/16W
R88	1-218-724-11	s	CHIP, METAL 22K 5% 1/16W
R89	1-218-706-11	s	METAL 3.9K 0.50% 1/16W
R90	1-218-710-11	s	CHIP, METAL 5.6K 0.50% 1/16W
R91	1-218-700-11	s	METAL 2.2K 0.50% 1/16W
R92	1-216-837-11	s	METAL, CHIP 22K 5% 1/16W
R93	1-216-845-11	s	METAL, CHIP 100K 5% 1/16W
R94	1-218-708-11	s	METAL 4.7K 0.50% 1/16W
R95	1-218-858-11	s	CHIP, METAL 3K 0.50% 1/16W
R96	1-218-699-11	s	CHIP, METAL 2K 0.50% 1/16W
R97	1-218-668-11	s	CHIP, METAL 100 0.50% 1/16W
R98	1-218-668-11	s	CHIP, METAL 100 0.50% 1/16W
R99	1-216-825-11	s	METAL, CHIP 2.2K 5% 1/16W
R100	1-216-830-11	s	METAL, CHIP 5.6K 5% 1/16W
R101	1-218-720-11	s	METAL 15K 0.50% 1/16W
R102	1-218-716-11	s	METAL 10K 0.50% 1/16W
R103	1-218-725-11	s	METAL 24K 0.50% 1/16W
R105	1-216-845-11	s	METAL, CHIP 100K 5% 1/16W
R106	1-216-845-11	s	METAL, CHIP 100K 5% 1/16W
R107	1-216-809-11	s	METAL, CHIP 100 5% 1/16W
R108	1-216-809-11	s	METAL, CHIP 100 5% 1/16W
R110	1-216-805-11	s	METAL, CHIP 47 5% 1/16W
R111	1-216-805-11	s	METAL, CHIP 47 5% 1/16W
R112	1-216-829-11	s	METAL, CHIP 4.7K 5% 1/16W
R113	1-216-829-11	s	METAL, CHIP 4.7K 5% 1/16W
R114	1-218-692-11	s	CHIP, METAL 1K 0.50% 1/16W
R115	1-218-708-11	s	METAL 4.7K 0.50% 1/16W
R116	1-218-692-11	s	CHIP, METAL 1K 0.50% 1/16W
R117	1-218-708-11	s	METAL 4.7K 0.50% 1/16W
R118	1-218-846-11	s	CHIP, METAL 910 0.50% 1/16W
R119	1-218-692-11	s	CHIP, METAL 1K 0.50% 1/16W
R120	1-216-805-11	s	METAL, CHIP 47 5% 1/16W
R121	1-216-805-11	s	METAL, CHIP 47 5% 1/16W
R122	1-220-158-91	s	CHIP, METAL 3.6K 5% 1/16W
R123	1-220-158-91	s	CHIP, METAL 3.6K 5% 1/16W

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Ref. No. or Q'ty	Part No.	SP Description
R124	1-216-805-11	s METAL, CHIP 47 5% 1/16W
R127	1-216-845-11	s METAL, CHIP 100K 5% 1/16W
R128	1-216-832-11	s METAL, CHIP 8.2K 5% 1/16W
R129	1-216-830-11	s METAL, CHIP 5.6K 5% 1/16W
R130	1-216-832-11	s METAL, CHIP 8.2K 5% 1/16W
R131	1-216-829-11	s METAL, CHIP 4.7K 5% 1/16W
R135	1-216-833-11	s METAL, CHIP 10K 5% 1/16W
R136	1-216-833-11	s METAL, CHIP 10K 5% 1/16W
R137	1-216-833-11	s METAL, CHIP 10K 5% 1/16W
R142	1-218-708-11	s METAL 4.7K 0.50% 1/16W
R145	1-216-864-11	s METAL, CHIP 0 5% 1/16W
R146	1-218-676-11	s METAL 220 0.50% 1/16W
R147	1-218-710-11	s CHIP, METAL 5.6K 0.50% 1/16W
R148	1-218-706-11	s METAL 3.9K 0.50% 1/16W
R149	1-218-694-11	s CHIP, METAL 1.2K 0.50% 1/16W
R150	1-218-700-11	s METAL 2.2K 0.50% 1/16W
R151	1-218-702-11	s CHIP, METAL 2.7K 0.50% 1/16W
R152	1-218-692-11	s CHIP, METAL 1K 0.50% 1/16W
R153	1-218-700-11	s METAL 2.2K 0.50% 1/16W
R154	1-218-700-11	s METAL 2.2K 0.50% 1/16W
R155	1-211-990-11	s CHIP, METAL 75 0.50% 1/16W
R156	1-216-845-11	s METAL, CHIP 100K 5% 1/16W
R157	1-216-809-11	s METAL, CHIP 100 5% 1/16W
R158	1-216-864-11	s METAL, CHIP 0 5% 1/16W
R159	1-218-698-11	s METAL 1.8K 0.50% 1/16W
R160	1-218-676-11	s METAL 220 0.50% 1/16W
R161	1-220-158-91	s CHIP, METAL 3.6K 5% 1/16W
R162	1-216-805-11	s METAL, CHIP 47 5% 1/16W
R163	1-216-829-11	s METAL, CHIP 4.7K 5% 1/16W
R164	1-218-672-11	s METAL 150 0.50% 1/16W
R165	1-218-710-11	s CHIP, METAL 5.6K 0.50% 1/16W
R166	1-218-708-11	s METAL 4.7K 0.50% 1/16W
R167	1-218-705-11	s METAL 3.6K 0.50% 1/16W
R168	1-218-700-11	s METAL 2.2K 0.50% 1/16W
R169	1-218-858-11	s CHIP, METAL 3K 0.50% 1/16W
R170	1-218-705-11	s METAL 3.6K 0.50% 1/16W
R171	1-216-845-11	s METAL, CHIP 100K 5% 1/16W
R172	1-216-809-11	s METAL, CHIP 100 5% 1/16W
R173	1-216-845-11	s METAL, CHIP 100K 5% 1/16W
R174	1-218-708-11	s METAL 4.7K 0.50% 1/16W
R175	1-218-724-11	s CHIP, METAL 22K 5% 1/16W
R177	1-218-867-11	s CHIP, METAL 6.8K 0.50% 1/16W
R178	1-218-724-11	s CHIP, METAL 22K 5% 1/16W
R184	1-218-828-11	s METAL 160 0.50% 1/16W
R185	1-218-648-11	s METAL 15 0.50% 1/16W
R186	1-218-661-11	s CHIP, METAL 51 0.50% 1/16W
R187	1-211-990-11	s CHIP, METAL 75 0.50% 1/16W
R188	1-218-702-11	s CHIP, METAL 2.7K 0.50% 1/16W
R190	1-216-829-11	s METAL, CHIP 4.7K 5% 1/16W
R191	1-218-700-11	s METAL 2.2K 0.50% 1/16W
R192	1-218-710-11	s CHIP, METAL 5.6K 0.50% 1/16W
R193	1-218-706-11	s METAL 3.9K 0.50% 1/16W
R194	1-218-700-11	s METAL 2.2K 0.50% 1/16W
R195	1-218-702-11	s CHIP, METAL 2.7K 0.50% 1/16W
R196	1-218-720-11	s METAL 15K 0.50% 1/16W
R197	1-218-740-11	s METAL 100K 0.50% 1/16W
R198	1-218-858-11	s CHIP, METAL 3K 0.50% 1/16W
R199	1-211-990-11	s CHIP, METAL 75 0.50% 1/16W
R200	1-218-668-11	s CHIP, METAL 100 0.50% 1/16W

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Ref. No. or Q'ty	Part No.	SP Description
R201	1-218-720-11	s METAL 15K 0.50% 1/16W
R202	1-218-720-11	s METAL 15K 0.50% 1/16W
R205	1-218-699-11	s CHIP, METAL 2K 0.50% 1/16W
R206	1-218-732-11	s METAL 47K 0.50% 1/16W
R207	1-218-725-11	s METAL 24K 0.50% 1/16W
R208	1-216-864-11	s METAL, CHIP 0 5% 1/16W
R209	1-218-698-11	s METAL 1.8K 0.50% 1/16W
R210	1-218-676-11	s METAL 220 0.50% 1/16W
R211	1-220-158-91	s CHIP, METAL 3.6K 5% 1/16W
R212	1-216-805-11	s METAL, CHIP 47 5% 1/16W
R213	1-216-829-11	s METAL, CHIP 4.7K 5% 1/16W
R214	1-216-864-11	s METAL, CHIP 0 5% 1/16W
R215	1-218-710-11	s CHIP, METAL 5.6K 0.50% 1/16W
R216	1-218-708-11	s METAL 4.7K 0.50% 1/16W
R217	1-218-705-11	s METAL 3.6K 0.50% 1/16W
R218	1-218-700-11	s METAL 2.2K 0.50% 1/16W
R219	1-218-858-11	s CHIP, METAL 3K 0.50% 1/16W
R220	1-218-705-11	s METAL 3.6K 0.50% 1/16W
R221	1-216-845-11	s METAL, CHIP 100K 5% 1/16W
R222	1-216-809-11	s METAL, CHIP 100 5% 1/16W
R223	1-216-845-11	s METAL, CHIP 100K 5% 1/16W
R224	1-218-841-11	s CHIP, METAL 560 0.50% 1/16W
R225	1-218-697-11	s METAL 1.6K 0.50% 1/16W
R226	1-218-672-11	s METAL 150 0.50% 1/16W
R227	1-218-864-11	s CHIP, METAL 5.1K 0.50% 1/16W
R228	1-218-675-11	s CHIP, METAL 200 0.50% 1/16W
R229	1-216-829-11	s METAL, CHIP 4.7K 5% 1/16W
R231	1-218-829-11	s CHIP, METAL 180 0.50% 1/16W
R232	1-218-867-11	s CHIP, METAL 6.8K 0.50% 1/16W
R233	1-218-706-11	s METAL 3.9K 0.50% 1/16W
R234	1-218-710-11	s CHIP, METAL 5.6K 0.50% 1/16W
R235	1-218-700-11	s METAL 2.2K 0.50% 1/16W
R236	1-218-702-11	s CHIP, METAL 2.7K 0.50% 1/16W
R239	1-218-858-11	s CHIP, METAL 3K 0.50% 1/16W
R240	1-211-990-11	s CHIP, METAL 75 0.50% 1/16W
R241	1-218-668-11	s CHIP, METAL 100 0.50% 1/16W
R242	1-218-668-11	s CHIP, METAL 100 0.50% 1/16W
R243	1-218-668-11	s CHIP, METAL 100 0.50% 1/16W
R244	1-216-845-11	s METAL, CHIP 100K 5% 1/16W
R246	1-218-729-11	s CHIP, METAL 36K 0.50% 1/16W
R247	1-218-724-11	s CHIP, METAL 22K 5% 1/16W
R248	1-218-732-11	s METAL 47K 0.50% 1/16W
R249	1-218-699-11	s CHIP, METAL 2K 0.50% 1/16W
R250	1-218-668-11	s CHIP, METAL 100 0.50% 1/16W
R251	1-218-668-11	s CHIP, METAL 100 0.50% 1/16W
R252	1-216-825-11	s METAL, CHIP 2.2K 5% 1/16W
R253	1-216-830-11	s METAL, CHIP 5.6K 5% 1/16W
R254	1-218-873-11	s CHIP, METAL 12K 0.50% 1/16W
R255	1-218-716-11	s METAL 10K 0.50% 1/16W
R256	1-218-725-11	s METAL 24K 0.50% 1/16W
R257	1-216-864-11	s METAL, CHIP 0 5% 1/16W
R258	1-218-698-11	s METAL 1.8K 0.50% 1/16W
R259	1-218-676-11	s METAL 220 0.50% 1/16W
R260	1-220-158-91	s CHIP, METAL 3.6K 5% 1/16W
R261	1-216-805-11	s METAL, CHIP 47 5% 1/16W
R262	1-216-829-11	s METAL, CHIP 4.7K 5% 1/16W
R263	1-216-864-11	s METAL, CHIP 0 5% 1/16W
R264	1-218-710-11	s CHIP, METAL 5.6K 0.50% 1/16W
R265	1-218-708-11	s METAL 4.7K 0.50% 1/16W

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Ref. No. or Q'ty	Part No.	SP	Description
R266	1-218-705-11	s	METAL 3.6K 0.50% 1/16W
R267	1-218-700-11	s	METAL 2.2K 0.50% 1/16W
R268	1-218-858-11	s	CHIP, METAL 3K 0.50% 1/16W
R269	1-218-705-11	s	METAL 3.6K 0.50% 1/16W
R270	1-216-845-11	s	METAL, CHIP 100K 5% 1/16W
R271	1-216-809-11	s	METAL, CHIP 100 5% 1/16W
R272	1-216-845-11	s	METAL, CHIP 100K 5% 1/16W
R273	1-218-841-11	s	CHIP, METAL 560 0.50% 1/16W
R274	1-218-697-11	s	METAL 1.6K 0.50% 1/16W
R275	1-218-672-11	s	METAL 150 0.50% 1/16W
R276	1-218-864-11	s	CHIP, METAL 5.1K 0.50% 1/16W
R277	1-218-675-11	s	CHIP, METAL 200 0.50% 1/16W
R278	1-216-829-11	s	METAL, CHIP 4.7K 5% 1/16W
R280	1-218-672-11	s	METAL 150 0.50% 1/16W
R281	1-218-867-11	s	CHIP, METAL 6.8K 0.50% 1/16W
R282	1-218-706-11	s	METAL 3.9K 0.50% 1/16W
R283	1-218-710-11	s	CHIP, METAL 5.6K 0.50% 1/16W
R284	1-218-700-11	s	METAL 2.2K 0.50% 1/16W
R285	1-218-702-11	s	CHIP, METAL 2.7K 0.50% 1/16W
R288	1-218-858-11	s	CHIP, METAL 3K 0.50% 1/16W
R289	1-211-990-11	s	CHIP, METAL 75 0.50% 1/16W
R290	1-218-668-11	s	CHIP, METAL 100 0.50% 1/16W
R293	1-218-714-11	s	METAL 8.2K 0.50% 1/16W
R294	1-218-724-11	s	CHIP, METAL 22K 5% 1/16W
R295	1-218-732-11	s	METAL 47K 0.50% 1/16W
R300	1-218-868-11	s	CHIP, METAL 7.5K 0.50% 1/16W
R301	1-218-698-11	s	METAL 1.8K 0.50% 1/16W
R302	1-218-708-11	s	METAL 4.7K 0.50% 1/16W
R303	1-218-851-11	s	CHIP, METAL 1.5K 0.50% 1/16W
R304	1-218-675-11	s	CHIP, METAL 200 0.50% 1/16W
R305	1-218-725-11	s	METAL 24K 0.50% 1/16W
R306	1-216-832-11	s	METAL, CHIP 8.2K 5% 1/16W
R307	1-218-868-11	s	CHIP, METAL 7.5K 0.50% 1/16W
R308	1-218-698-11	s	METAL 1.8K 0.50% 1/16W
R309	1-218-706-11	s	METAL 3.9K 0.50% 1/16W
R310	1-216-826-11	s	METAL, CHIP 2.7K 5% 1/16W
R311	1-216-864-11	s	METAL, CHIP 0 5% 1/16W
R312	1-218-704-11	s	METAL 3.3K 0.50% 1/16W
R313	1-216-829-11	s	METAL, CHIP 4.7K 5% 1/16W
R314	1-216-829-11	s	METAL, CHIP 4.7K 5% 1/16W
R315	1-216-829-11	s	METAL, CHIP 4.7K 5% 1/16W
R316	1-216-829-11	s	METAL, CHIP 4.7K 5% 1/16W
R317	1-216-829-11	s	METAL, CHIP 4.7K 5% 1/16W
R318	1-216-829-11	s	METAL, CHIP 4.7K 5% 1/16W
R320	1-216-829-11	s	METAL, CHIP 4.7K 5% 1/16W
R321	1-216-829-11	s	METAL, CHIP 4.7K 5% 1/16W
R322	1-216-829-11	s	METAL, CHIP 4.7K 5% 1/16W
R323	1-216-864-11	s	METAL, CHIP 0 5% 1/16W
R324	1-216-864-11	s	METAL, CHIP 0 5% 1/16W
R325	1-216-864-11	s	METAL, CHIP 0 5% 1/16W
R326	1-218-692-11	s	CHIP, METAL 1K 0.50% 1/16W
R327	1-218-692-11	s	CHIP, METAL 1K 0.50% 1/16W
R328	1-218-708-11	s	METAL 4.7K 0.50% 1/16W
R330	1-216-864-11	s	METAL, CHIP 0 5% 1/16W
R331	1-218-724-11	s	CHIP, METAL 22K 5% 1/16W
R332	1-218-883-11	s	METAL 33K 0.50% 1/16W
R333	1-216-821-11	s	METAL, CHIP 1K 5% 1/16W
R334	1-216-821-11	s	METAL, CHIP 1K 5% 1/16W
R335	1-216-821-11	s	METAL, CHIP 1K 5% 1/16W

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Ref. No. or Q'ty	Part No.	SP	Description
R336	1-218-727-11	s	METAL 30K 0.50% 1/16W
R337	1-216-821-11	s	METAL, CHIP 1K 5% 1/16W
R357	1-218-680-11	s	METAL 330 0.50% 1/16W
R358	1-218-672-11	s	METAL 150 0.50% 1/16W
R361	1-218-856-11	s	CHIP, METAL 2.4K 0.50% 1/16W
R362	1-218-856-11	s	CHIP, METAL 2.4K 0.50% 1/16W
R363	1-216-809-11	s	METAL, CHIP 100 5% 1/16W
R364	1-216-849-11	s	METAL, CHIP 220K 5% 1/16W
R365	1-216-849-11	s	METAL, CHIP 220K 5% 1/16W
R366	1-216-845-11	s	METAL, CHIP 100K 5% 1/16W
R367	1-218-700-11	s	METAL 2.2K 0.50% 1/16W
R368	1-218-692-11	s	CHIP, METAL 1K 0.50% 1/16W
R369	1-218-829-11	s	CHIP, METAL 180 0.50% 1/16W
R370	1-218-856-11	s	CHIP, METAL 2.4K 0.50% 1/16W
R371	1-216-797-11	s	METAL, CHIP 10 5% 1/16W
R372	1-218-856-11	s	CHIP, METAL 2.4K 0.50% 1/16W
R373	1-218-856-11	s	CHIP, METAL 2.4K 0.50% 1/16W
R374	1-216-797-11	s	METAL, CHIP 10 5% 1/16W
R375	1-218-856-11	s	CHIP, METAL 2.4K 0.50% 1/16W
R376	1-218-727-11	s	METAL 30K 0.50% 1/16W
R378	1-218-664-11	s	CHIP, METAL 68 0.50% 1/16W
R379	1-218-727-11	s	METAL 30K 0.50% 1/16W
R380	1-218-655-91	s	CHIP, METAL 30 0.50% 1/16W
RB1	1-239-309-11	s	RESISTOR BLOCK, CHIP 100KX8
RB2	1-239-309-11	s	RESISTOR BLOCK, CHIP 100KX8
RB3	1-239-309-11	s	RESISTOR BLOCK, CHIP 100KX8
RB4	1-236-908-11	s	RESISTOR, NETWORK, CHIP 10k
RB5	1-236-908-11	s	RESISTOR, NETWORK, CHIP 10k
RB6	1-236-906-11	s	NETWORK RESISTOR (CHIP) 15K
RB7	1-236-906-11	s	NETWORK RESISTOR (CHIP) 15K

DM-98 BOARD

Ref. No. or Q'ty	Part No.	SP	Description
1pc	A-8272-580-A	o	MOUNTED CIRCUIT BOARD, DM-98
C1	1-104-913-11	s	TANTALUM, CHIP 10uF 20% 16V
C2	1-164-156-11	s	CERAMIC 0.1uF 25V
C3	1-162-970-11	s	CERAMIC, CHIP 0.01uF 10% 25V
C4	1-162-970-11	s	CERAMIC, CHIP 0.01uF 10% 25V
C5	1-162-910-11	s	CERAMIC 5PF 0.25PF 50V
C6	1-162-970-11	s	CERAMIC, CHIP 0.01uF 10% 25V
C7	1-162-964-11	s	CERAMIC 0.001uF 10% 50V
C8	1-104-913-11	s	TANTALUM, CHIP 10uF 20% 16V
C9	1-162-964-11	s	CERAMIC 0.001uF 10% 50V
C10	1-162-970-11	s	CERAMIC, CHIP 0.01uF 10% 25V
C11	1-162-970-11	s	CERAMIC, CHIP 0.01uF 10% 25V
C12	1-162-970-11	s	CERAMIC, CHIP 0.01uF 10% 25V
C13	1-164-156-11	s	CERAMIC 0.1uF 25V
C14	1-162-970-11	s	CERAMIC, CHIP 0.01uF 10% 25V
C15	1-162-970-11	s	CERAMIC, CHIP 0.01uF 10% 25V
C16	1-162-964-11	s	CERAMIC 0.001uF 10% 50V
C17	1-162-964-11	s	CERAMIC 0.001uF 10% 50V
C18	1-162-970-11	s	CERAMIC, CHIP 0.01uF 10% 25V
C19	1-162-970-11	s	CERAMIC, CHIP 0.01uF 10% 25V
C20	1-164-156-11	s	CERAMIC 0.1uF 25V
C21	1-162-970-11	s	CERAMIC, CHIP 0.01uF 10% 25V
C22	1-162-964-11	s	CERAMIC 0.001uF 10% 50V
C23	1-162-964-11	s	CERAMIC 0.001uF 10% 50V
C24	1-162-970-11	s	CERAMIC, CHIP 0.01uF 10% 25V
C25	1-162-970-11	s	CERAMIC, CHIP 0.01uF 10% 25V
C26	1-164-156-11	s	CERAMIC 0.1uF 25V
C27	1-162-970-11	s	CERAMIC, CHIP 0.01uF 10% 25V
C28	1-162-964-11	s	CERAMIC 0.001uF 10% 50V
C29	1-162-964-11	s	CERAMIC 0.001uF 10% 50V
C30	1-162-970-11	s	CERAMIC, CHIP 0.01uF 10% 25V
C31	1-162-964-11	s	CERAMIC 0.001uF 10% 50V
C32	1-164-156-11	s	CERAMIC 0.1uF 25V
C33	1-162-970-11	s	CERAMIC, CHIP 0.01uF 10% 25V
C34	1-162-970-11	s	CERAMIC, CHIP 0.01uF 10% 25V
C35	1-162-970-11	s	CERAMIC, CHIP 0.01uF 10% 25V
C36	1-162-970-11	s	CERAMIC, CHIP 0.01uF 10% 25V
C37	1-162-970-11	s	CERAMIC, CHIP 0.01uF 10% 25V
C38	1-162-970-11	s	CERAMIC, CHIP 0.01uF 10% 25V
C39	1-162-970-11	s	CERAMIC, CHIP 0.01uF 10% 25V
C40	1-162-964-11	s	CERAMIC 0.001uF 10% 50V
C41	1-162-964-11	s	CERAMIC 0.001uF 10% 50V
C42	1-104-851-11	s	TANTALUM, CHIP 10uF 20% 10V
C43	1-162-970-11	s	CERAMIC, CHIP 0.01uF 10% 25V
C44	1-135-166-21	s	TANTALUM, CHIP 47uF 10% 10V
C45	1-104-851-11	s	TANTALUM, CHIP 10uF 20% 10V
C46	1-162-970-11	s	CERAMIC, CHIP 0.01uF 10% 25V
C47	1-162-970-11	s	CERAMIC, CHIP 0.01uF 10% 25V
C48	1-135-091-91	s	CHIP, TANTALUM 1uF 20% 16V
C49	1-162-970-11	s	CERAMIC, CHIP 0.01uF 10% 25V
C50	1-162-905-11	s	CERAMIC 1PF 0.25PF 50V
C51	1-162-907-11	s	CERAMIC, CHIP 2PF 50V
C52	1-162-970-11	s	CERAMIC, CHIP 0.01uF 10% 25V
C54	1-162-909-11	s	CERAMIC 4PF 0.25PF 50V
C55	1-162-970-11	s	CERAMIC, CHIP 0.01uF 10% 25V
C56	1-104-852-11	s	TANTALUM, CHIP 22uF 20% 10V
C57	1-104-852-11	s	TANTALUM, CHIP 22uF 20% 10V
C58	1-162-970-11	s	CERAMIC, CHIP 0.01uF 10% 25V

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Ref. No. or Q'ty	Part No.	SP	Description
C59	1-162-970-11	s	CERAMIC, CHIP 0.01uF 10% 25V
C60	1-162-970-11	s	CERAMIC, CHIP 0.01uF 10% 25V
C61	1-162-921-11	s	CERAMIC, CHIP 33PF 5% 50V
C62	1-162-907-11	s	CERAMIC, CHIP 2PF 50V
C63	1-104-851-11	s	TANTALUM, CHIP 10uF 20% 10V
C64	1-162-907-11	s	CERAMIC, CHIP 2PF 50V
C65	1-104-852-11	s	TANTALUM, CHIP 22uF 20% 10V
C66	1-104-852-11	s	TANTALUM, CHIP 22uF 20% 10V
C67	1-164-156-11	s	CERAMIC 0.1uF 25V
C68	1-164-156-11	s	CERAMIC 0.1uF 25V
C69	1-104-913-11	s	TANTALUM, CHIP 10uF 20% 16V
C70	1-104-913-11	s	TANTALUM, CHIP 10uF 20% 16V
C71	1-162-915-11	s	CERAMIC, CHIP 10PF 5PF 50V
C72	1-162-970-11	s	CERAMIC, CHIP 0.01uF 10% 25V
C73	1-104-851-11	s	TANTALUM, CHIP 10uF 20% 10V
C74	1-135-227-11	s	TANTAL 100uF 10% 6.3V
C75	1-162-970-11	s	CERAMIC, CHIP 0.01uF 10% 25V
C76	1-162-970-11	s	CERAMIC, CHIP 0.01uF 10% 25V
C77	1-135-160-21	s	CHIP, TANTALUM 15uF 10% 16V
C78	1-104-913-11	s	TANTALUM, CHIP 10uF 20% 16V
C79	1-104-913-11	s	TANTALUM, CHIP 10uF 20% 16V
C80	1-162-905-11	s	CERAMIC 1PF 0.25PF 50V
C81	1-162-905-11	s	CERAMIC 1PF 0.25PF 50V
C82	1-162-970-11	s	CERAMIC, CHIP 0.01uF 10% 25V
C83	1-104-913-11	s	TANTALUM, CHIP 10uF 20% 16V
C84	1-164-156-11	s	CERAMIC 0.1uF 25V
C85	1-162-915-11	s	CERAMIC, CHIP 10PF 5PF 50V
C90	1-135-149-21	s	TANTALUM, CHIP 2.2uF 10% 10V
C91	1-104-851-11	s	TANTALUM, CHIP 10uF 20% 10V
C92	1-162-959-11	s	CERAMIC 330PF 5% 50V
C93	1-104-851-11	s	TANTALUM, CHIP 10uF 20% 10V
C94	1-104-852-11	s	TANTALUM, CHIP 22uF 20% 10V
C100	1-131-367-00	s	TANTALUM, 22uF 10% 20V
C101	1-131-367-00	s	TANTALUM, 22uF 10% 20V
CN1	1-568-360-21	s	CONNECTOR, BOARD TO BOARD 22P
CN2	1-766-703-11	s	CONNECTOR, COAXIAL
D1	8-719-002-81	s	DIODE 1T363
D2	8-719-002-81	s	DIODE 1T363
D3	8-719-002-81	s	DIODE 1T363
D4	8-719-002-81	s	DIODE 1T363
D5	8-719-974-76	s	DIODE HSM107S
D6	8-719-404-35	s	DIODE MA141WK
D7	8-719-404-35	s	DIODE MA141WK
D8	8-719-041-68	s	DIODE RD3.3UH-T1
D9	8-759-274-67	s	IC LM4040BIM3X-5.0
FL1	1-233-274-11	s	FILTER, BAND PASS
FL2	1-239-972-11	s	FILTER, LOW-PASS
IC1	8-759-266-17	s	IC CA3102M
IC2	8-759-266-17	s	IC CA3102M
IC3	8-752-032-63	s	IC CXA1165M
IC4	8-752-052-82	s	IC CXA1432M
IC5	8-759-300-71	s	IC MC14053BF
IC6	8-759-300-71	s	IC MC14053BF
IC7	8-759-230-14	s	IC TC4S81F(Te85R)
IC8	8-759-008-91	s	IC MC14023BF
IC9	8-759-173-16	s	IC TL062CPW
L1	1-412-026-11	s	INDUCTOR CHIP 1uH

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Ref. No. or Q'ty	Part No.	SP	Description
L2	1-412-026-11	s	INDUCTOR CHIP 1uH
L3	1-412-029-11	s	INDUCTOR CHIP 10uH
L4	1-412-029-11	s	INDUCTOR CHIP 10uH
L5	1-410-136-11	s	INDUCTOR 3.3uH
L6	1-412-026-11	s	INDUCTOR CHIP 1uH
L7	1-412-026-11	s	INDUCTOR CHIP 1uH
L8	1-412-026-11	s	INDUCTOR CHIP 1uH
L9	1-412-026-11	s	INDUCTOR CHIP 1uH
L10	1-414-142-11	s	INDUCTOR 1uH
LV1	1-409-819-21	s	COIL, VAR
LV2	1-409-817-21	s	COIL, VAR
Q1	8-729-119-28	s	TRANSISTOR 2SC2758-U18
Q2	8-729-144-07	s	TRANSISTOR 2SC4184-T43
Q3	8-729-024-58	s	TRANSISTOR 2SA1688-5
Q4	8-729-026-32	s	TRANSISTOR XP6534
Q5	8-729-026-32	s	TRANSISTOR XP6534
Q6	8-729-026-32	s	TRANSISTOR XP6534
Q7	8-729-026-32	s	TRANSISTOR XP6534
Q8	8-729-144-07	s	TRANSISTOR 2SC4184-T43
Q9	8-729-117-32	s	TRANSISTOR 2SC4177
Q10	8-729-026-32	s	TRANSISTOR XP6534
Q11	8-729-117-32	s	TRANSISTOR 2SC4177
Q12	8-729-026-31	s	TRANSISTOR XP6435
Q13	8-729-117-32	s	TRANSISTOR 2SC4177
Q14	8-729-117-16	s	TRANSISTOR 2SA1611-M6
Q15	8-729-117-32	s	TRANSISTOR 2SC4177
Q16	8-729-117-16	s	TRANSISTOR 2SA1611-M6
Q17	8-729-117-16	s	TRANSISTOR 2SA1611-M6
Q18	8-729-117-32	s	TRANSISTOR 2SC4177
Q19	8-729-117-16	s	TRANSISTOR 2SA1611-M6
Q20	8-729-117-16	s	TRANSISTOR 2SA1611-M6
Q21	8-729-117-16	s	TRANSISTOR 2SA1611-M6
Q22	8-729-117-32	s	TRANSISTOR 2SC4177
Q23	8-729-026-31	s	TRANSISTOR XP6435
Q24	8-729-144-07	s	TRANSISTOR 2SC4184-T43
Q25	8-729-024-56	s	TRANSISTOR 2SA1808
Q26	8-729-144-07	s	TRANSISTOR 2SC4184-T43
Q27	8-729-144-07	s	TRANSISTOR 2SC4184-T43
Q28	8-729-024-56	s	TRANSISTOR 2SA1808
Q29	8-729-928-81	s	TRANSISTOR DTC144EE
Q30	8-729-928-81	s	TRANSISTOR DTC144EE
Q31	8-729-117-32	s	TRANSISTOR 2SC4177
Q32	8-729-928-81	s	TRANSISTOR DTC144EE
Q33	8-729-141-48	s	TRANSISTOR 2SB624-BV345
Q34	8-729-928-81	s	TRANSISTOR DTC144EE
Q35	8-729-928-27	s	TRANSISTOR DTA144EE
Q36	8-729-141-48	s	TRANSISTOR 2SB624-BV345
Q37	8-729-928-81	s	TRANSISTOR DTC144EE
Q38	8-729-159-65	s	TRANSISTOR 2SD596-DV5
R1	1-218-716-11	s	METAL 10K 0.50% 1/16W
R2	1-218-868-11	s	CHIP, METAL 7.5K 0.50% 1/16W
R3	1-218-700-11	s	METAL 2.2K 0.50% 1/16W
R4	1-218-664-11	s	CHIP, METAL 68 0.50% 1/16W
R5	1-218-688-11	s	METAL 680 0.50% 1/16W
R6	1-218-716-11	s	METAL 10K 0.50% 1/16W
R7	1-218-716-11	s	METAL 10K 0.50% 1/16W
R8	1-211-977-11	s	CHIP, METAL 22 0.50% 1/16W
R9	1-218-851-11	s	CHIP, METAL 1.5K 0.50% 1/16W

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Ref. No. or Q'ty	Part No.	SP	Description
R10	1-218-660-91	s	CHIP, METAL 47 0.50% 1/16W
R11	1-218-851-11	s	CHIP, METAL 1.5K 0.50% 1/16W
R12	1-218-700-11	s	METAL 2.2K 0.50% 1/16W
R13	1-218-668-11	s	CHIP, METAL 100 0.50% 1/16W
R14	1-218-833-11	s	CHIP, METAL 270 0.50% 1/16W
R15	1-218-660-91	s	CHIP, METAL 47 0.50% 1/16W
R16	1-218-672-11	s	METAL 150 0.50% 1/16W
R17	1-218-833-11	s	CHIP, METAL 270 0.50% 1/16W
R18	1-218-700-11	s	METAL 2.2K 0.50% 1/16W
R19	1-218-851-11	s	CHIP, METAL 1.5K 0.50% 1/16W
R20	1-218-706-11	s	METAL 3.9K 0.50% 1/16W
R21	1-218-851-11	s	CHIP, METAL 1.5K 0.50% 1/16W
R22	1-218-706-11	s	METAL 3.9K 0.50% 1/16W
R23	1-218-668-11	s	CHIP, METAL 100 0.50% 1/16W
R24	1-218-833-11	s	CHIP, METAL 270 0.50% 1/16W
R25	1-218-660-91	s	CHIP, METAL 47 0.50% 1/16W
R26	1-218-671-11	s	CHIP, METAL 130 0.50% 1/16W
R27	1-218-833-11	s	CHIP, METAL 270 0.50% 1/16W
R28	1-218-851-11	s	CHIP, METAL 1.5K 0.50% 1/16W
R29	1-218-706-11	s	METAL 3.9K 0.50% 1/16W
R30	1-218-851-11	s	CHIP, METAL 1.5K 0.50% 1/16W
R31	1-218-706-11	s	METAL 3.9K 0.50% 1/16W
R32	1-218-668-11	s	CHIP, METAL 100 0.50% 1/16W
R33	1-218-833-11	s	CHIP, METAL 270 0.50% 1/16W
R34	1-218-660-91	s	CHIP, METAL 47 0.50% 1/16W
R35	1-218-671-11	s	CHIP, METAL 130 0.50% 1/16W
R36	1-218-833-11	s	CHIP, METAL 270 0.50% 1/16W
R37	1-218-851-11	s	CHIP, METAL 1.5K 0.50% 1/16W
R38	1-218-706-11	s	METAL 3.9K 0.50% 1/16W
R39	1-218-851-11	s	CHIP, METAL 1.5K 0.50% 1/16W
R40	1-218-706-11	s	METAL 3.9K 0.50% 1/16W
R41	1-218-661-11	s	CHIP, METAL 51 0.50% 1/16W
R42	1-218-668-11	s	CHIP, METAL 100 0.50% 1/16W
R43	1-218-677-11	s	CHIP, METAL 240 0.50% 1/16W
R44	1-211-981-11	s	CHIP, METAL 33 0.50% 1/16W
R45	1-218-660-91	s	CHIP, METAL 47 0.50% 1/16W
R46	1-218-671-11	s	CHIP, METAL 130 0.50% 1/16W
R47	1-218-677-11	s	CHIP, METAL 240 0.50% 1/16W
R48	1-211-981-11	s	CHIP, METAL 33 0.50% 1/16W
R49	1-218-710-11	s	CHIP, METAL 5.6K 0.50% 1/16W
R50	1-218-851-11	s	CHIP, METAL 1.5K 0.50% 1/16W
R51	1-218-706-11	s	METAL 3.9K 0.50% 1/16W
R52	1-218-710-11	s	CHIP, METAL 5.6K 0.50% 1/16W
R53	1-218-851-11	s	CHIP, METAL 1.5K 0.50% 1/16W
R54	1-218-706-11	s	METAL 3.9K 0.50% 1/16W
R55	1-218-698-11	s	METAL 1.8K 0.50% 1/16W
R56	1-218-840-11	s	CHIP, METAL 510 0.50% 1/16W
R57	1-218-676-11	s	METAL 220 0.50% 1/16W
R58	1-218-668-11	s	CHIP, METAL 100 0.50% 1/16W
R59	1-218-668-11	s	CHIP, METAL 100 0.50% 1/16W
R60	1-218-668-11	s	CHIP, METAL 100 0.50% 1/16W
R61	1-218-833-11	s	CHIP, METAL 270 0.50% 1/16W
R63	1-218-833-11	s	CHIP, METAL 270 0.50% 1/16W
R64	1-211-969-11	s	CHIP, METAL 10 0.50% 1/16W
R65	1-211-969-11	s	CHIP, METAL 10 0.50% 1/16W
R66	1-218-668-11	s	CHIP, METAL 100 0.50% 1/16W
R67	1-218-706-11	s	METAL 3.9K 0.50% 1/16W
R68	1-218-694-11	s	CHIP, METAL 1.2K 0.50% 1/16W
R69	1-211-990-11	s	CHIP, METAL 75 0.50% 1/16W

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Ref. No. or Q'ty	Part No.	SP Description
R70	1-218-845-11	s CHIP, METAL 820 0.50% 1/16W
R71	1-218-692-11	s CHIP, METAL 1K 0.50% 1/16W
R72	1-211-990-11	s CHIP, METAL 75 0.50% 1/16W
R73	1-218-883-11	s METAL 33K 0.50% 1/16W
R74	1-218-724-11	s CHIP, METAL 22K 5% 1/16W
R76	1-218-706-11	s METAL 3.9K 0.50% 1/16W
R77	1-218-692-11	s CHIP, METAL 1K 0.50% 1/16W
R78	1-218-867-11	s CHIP, METAL 6.8K 0.50% 1/16W
R79	1-216-864-11	s METAL, CHIP 0 5% 1/16W
R80	1-218-851-11	s CHIP, METAL 1.5K 0.50% 1/16W
R81	1-218-710-11	s CHIP, METAL 5.6K 0.50% 1/16W
R82	1-218-688-11	s METAL 680 0.50% 1/16W
R83	1-218-692-11	s CHIP, METAL 1K 0.50% 1/16W
R84	1-218-716-11	s METAL 10K 0.50% 1/16W
R85	1-218-722-11	s CHIP, METAL 18K 0.50% 1/16W
R86	1-218-716-11	s METAL 10K 0.50% 1/16W
R88	1-218-716-11	s METAL 10K 0.50% 1/16W
R89	1-211-977-11	s CHIP, METAL 22 0.50% 1/16W
R90	1-218-704-11	s METAL 3.3K 0.50% 1/16W
R91	1-211-990-11	s CHIP, METAL 75 0.50% 1/16W
R92	1-218-692-11	s CHIP, METAL 1K 0.50% 1/16W
R93	1-218-858-11	s CHIP, METAL 3K 0.50% 1/16W
R94	1-218-660-91	s CHIP, METAL 47 0.50% 1/16W
R95	1-218-708-11	s METAL 4.7K 0.50% 1/16W
R96	1-218-868-11	s CHIP, METAL 7.5K 0.50% 1/16W
R97	1-218-724-11	s CHIP, METAL 22K 5% 1/16W
R98	1-218-724-11	s CHIP, METAL 22K 5% 1/16W
R99	1-218-700-11	s METAL 2.2K 0.50% 1/16W
R100	1-218-732-11	s METAL 47K 0.50% 1/16W
R101	1-216-853-11	s METAL, CHIP 470K 5% 1/16W
R102	1-218-708-11	s METAL 4.7K 0.50% 1/16W
R104	1-218-845-11	s CHIP, METAL 820 0.50% 1/16W
R105	1-218-692-11	s CHIP, METAL 1K 0.50% 1/16W
R106	1-218-708-11	s METAL 4.7K 0.50% 1/16W
R107	1-218-851-11	s CHIP, METAL 1.5K 0.50% 1/16W
R108	1-218-708-11	s METAL 4.7K 0.50% 1/16W
R109	1-218-732-11	s METAL 47K 0.50% 1/16W
R110	1-218-732-11	s METAL 47K 0.50% 1/16W
R111	1-218-732-11	s METAL 47K 0.50% 1/16W
R112	1-218-708-11	s METAL 4.7K 0.50% 1/16W
R113	1-218-695-11	s METAL 1.3K 0.50% 1/16W
R114	1-218-708-11	s METAL 4.7K 0.50% 1/16W
R115	1-218-867-11	s CHIP, METAL 6.8K 0.50% 1/16W
R116	1-218-851-11	s CHIP, METAL 1.5K 0.50% 1/16W
R117	1-218-692-11	s CHIP, METAL 1K 0.50% 1/16W
R118	1-218-692-11	s CHIP, METAL 1K 0.50% 1/16W
R119	1-218-708-11	s METAL 4.7K 0.50% 1/16W
R120	1-216-789-11	s METAL, CHIP 2.2 5% 1/16W
R121	1-216-789-11	s METAL, CHIP 2.2 5% 1/16W
R122	1-211-990-11	s CHIP, METAL 75 0.50% 1/16W
R123	1-218-732-11	s METAL 47K 0.50% 1/16W
R124	1-218-732-11	s METAL 47K 0.50% 1/16W
R125	1-218-732-11	s METAL 47K 0.50% 1/16W
R126	1-218-851-11	s CHIP, METAL 1.5K 0.50% 1/16W
R127	1-218-692-11	s CHIP, METAL 1K 0.50% 1/16W
R128	1-211-990-11	s CHIP, METAL 75 0.50% 1/16W
R130	1-218-692-11	s CHIP, METAL 1K 0.50% 1/16W
R131	1-218-732-11	s METAL 47K 0.50% 1/16W
R132	1-218-881-11	s CHIP, METAL 27K 0.50% 1/16W

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Ref. No. or Q'ty	Part No.	SP Description
R133	1-218-680-11	s METAL 330 0.50% 1/16W
R134	1-218-692-11	s CHIP, METAL 1K 0.50% 1/16W
R135	1-218-716-11	s METAL 10K 0.50% 1/16W
R136	1-218-732-11	s METAL 47K 0.50% 1/16W
R137	1-218-732-11	s METAL 47K 0.50% 1/16W
R138	1-218-716-11	s METAL 10K 0.50% 1/16W
R140	1-218-732-11	s METAL 47K 0.50% 1/16W
R141	1-218-716-11	s METAL 10K 0.50% 1/16W
R150	1-218-700-11	s METAL 2.2K 0.50% 1/16W
R151	1-216-833-11	s METAL, CHIP 10K 5% 1/16W
R152	1-218-873-11	s CHIP, METAL 12K 0.50% 1/16W
R153	1-218-723-11	s METAL 20K 0.50% 1/16W
R154	1-218-698-11	s METAL 1.8K 0.50% 1/16W
R155	1-218-867-11	s CHIP, METAL 6.8K 0.50% 1/16W
R156	1-218-668-11	s CHIP, METAL 100 0.50% 1/16W
RV1	1-237-034-11	s RES, ADJ METAL 2K
RV2	1-237-033-11	s RES, ADJ METAL 1K
S1	1-692-270-21	s SWITCH, SLIDE

DM-99 BOARD

Ref. No. or Q'ty	Part No.	SP	Description
1pc	A-8272-803-A	o	MOUNTED CIRCUIT BOARD, DM-99
C1	1-162-970-11	s	CERAMIC, CHIP 0.01uF 10% 25V
C2	1-162-964-11	s	CERAMIC 0.001uF 10% 50V
C3	1-162-964-11	s	CERAMIC 0.001uF 10% 50V
C4	1-162-964-11	s	CERAMIC 0.001uF 10% 50V
C5	1-162-917-11	s	CERAMIC, CHIP 15PF 5% 50V
C6	1-162-970-11	s	CERAMIC, CHIP 0.01uF 10% 25V
C7	1-104-913-11	s	TANTALUM, CHIP 10uF 20% 16V
C8	1-162-964-11	s	CERAMIC 0.001uF 10% 50V
C9	1-104-913-11	s	TANTALUM, CHIP 10uF 20% 16V
C10	1-135-166-21	s	TANTALUM, CHIP 47uF 10% 10V
C11	1-162-970-11	s	CERAMIC, CHIP 0.01uF 10% 25V
C12	1-162-970-11	s	CERAMIC, CHIP 0.01uF 10% 25V
C13	1-162-970-11	s	CERAMIC, CHIP 0.01uF 10% 25V
C14	1-135-091-91	s	CHIP, TANTALUM 1uF 20% 16V
C15	1-164-160-11	s	CERAMIC, CHIP 20PF 5% 50V
C16	1-135-145-11	s	TANTALUM, CHIP 0.47uF 10% 35V
C17	1-162-970-11	s	CERAMIC, CHIP 0.01uF 10% 25V
C18	1-162-970-11	s	CERAMIC, CHIP 0.01uF 10% 25V
C19	1-104-911-11	s	TANTALUM, CHIP 33uF 20% 10V
C20	1-162-970-11	s	CERAMIC, CHIP 0.01uF 10% 25V
C21	1-104-911-11	s	TANTALUM, CHIP 33uF 20% 10V
C22	1-104-852-11	s	TANTALUM, CHIP 22uF 20% 10V
C23	1-104-852-11	s	TANTALUM, CHIP 22uF 20% 10V
C24	1-104-911-11	s	TANTALUM, CHIP 33uF 20% 10V
C25	1-164-156-11	s	CERAMIC 0.1uF 25V
C26	1-164-156-11	s	CERAMIC 0.1uF 25V
C27	1-104-911-11	s	TANTALUM, CHIP 33uF 20% 10V
C28	1-164-156-11	s	CERAMIC 0.1uF 25V
C29	1-104-911-11	s	TANTALUM, CHIP 33uF 20% 10V
C30	1-164-156-11	s	CERAMIC 0.1uF 25V
C31	1-162-916-11	s	CERAMIC, CHIP 12PF 5% 50V
C33	1-162-927-11	s	CERAMIC, CHIP 100PF 5% 50V
CN1	1-568-354-11	o	CONNECTOR, BOARD TO BOARD 10P
CN2	1-766-703-11	s	CONNECTOR, COAXIAL
FL1	1-239-972-11	s	FILTER, LOW-PASS
IC1	8-759-281-38	s	IC M52313SP
IC2	8-752-052-82	s	IC CXA1432M
IC3	8-759-054-61	s	IC CLC505AJE
L1	1-412-026-11	s	INDUCTOR CHIP 1uH
L2	1-412-029-11	s	INDUCTOR CHIP 10uH
L3	1-412-029-11	s	INDUCTOR CHIP 10uH
L4	1-412-026-11	s	INDUCTOR CHIP 1uH
L5	1-412-029-11	s	INDUCTOR CHIP 10uH
L6	1-412-029-11	s	INDUCTOR CHIP 10uH
L7	1-412-029-11	s	INDUCTOR CHIP 10uH
LV1	1-409-820-21	s	COIL, VAR
LV2	1-409-820-21	s	COIL, VAR
Q2	8-729-028-91	s	TRANSISTOR DTA144EUA-T106
Q3	8-729-141-48	s	TRANSISTOR 2SB624-BV345
Q4	8-729-029-14	s	TRANSISTOR DTC144EUA-T106
Q5	8-729-117-16	s	TRANSISTOR 2SA1611-M6
Q6	8-729-029-14	s	TRANSISTOR DTC144EUA-T106
Q7	8-729-117-32	s	TRANSISTOR 2SC4177
Q8	8-729-029-14	s	TRANSISTOR DTC144EUA-T106

(DM-99 BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
Q9	8-729-029-14	s	TRANSISTOR DTC144EUA-T106
R1	1-211-990-11	s	CHIP, METAL 75 0.50% 1/16W
R2	1-218-883-11	s	METAL 33K 0.50% 1/16W
R3	1-218-716-11	s	METAL 10K 0.50% 1/16W
R4	1-218-732-11	s	METAL 47K 0.50% 1/16W
R5	1-218-698-11	s	METAL 1.8K 0.50% 1/16W
R6	1-218-688-11	s	METAL 680 0.50% 1/16W
R7	1-218-692-11	s	CHIP, METAL 1K 0.50% 1/16W
R8	1-218-716-11	s	METAL 10K 0.50% 1/16W
R9	1-218-724-11	s	CHIP, METAL 22K 5% 1/16W
R10	1-218-706-11	s	METAL 3.9K 0.50% 1/16W
R11	1-218-660-91	s	CHIP, METAL 47 0.50% 1/16W
R12	1-218-708-11	s	METAL 4.7K 0.50% 1/16W
R13	1-218-692-11	s	CHIP, METAL 1K 0.50% 1/16W
R14	1-218-704-11	s	METAL 3.3K 0.50% 1/16W
R15	1-218-706-11	s	METAL 3.9K 0.50% 1/16W
R16	1-218-692-11	s	CHIP, METAL 1K 0.50% 1/16W
R17	1-218-699-11	s	CHIP, METAL 2K 0.50% 1/16W
R18	1-216-864-11	s	METAL, CHIP 0 5% 1/16W
R19	1-218-700-11	s	METAL 2.2K 0.50% 1/16W
R20	1-218-716-11	s	METAL 10K 0.50% 1/16W
R21	1-211-990-11	s	CHIP, METAL 75 0.50% 1/16W
R22	1-218-897-11	s	CHIP, METAL 120K 0.50% 1/16W
R23	1-218-724-11	s	CHIP, METAL 22K 5% 1/16W
R24	1-218-724-11	s	CHIP, METAL 22K 5% 1/16W
R25	1-218-700-11	s	METAL 2.2K 0.50% 1/16W
R26	1-218-724-11	s	CHIP, METAL 22K 5% 1/16W
R27	1-218-873-11	s	CHIP, METAL 12K 0.50% 1/16W
R28	1-218-724-11	s	CHIP, METAL 22K 5% 1/16W
R29	1-218-732-11	s	METAL 47K 0.50% 1/16W
RV1	1-237-037-11	s	RES, ADJ, METAL 20K
RV2	1-237-033-11	s	RES, ADJ METAL 1K

IF-538 BOARD

Ref. No. or Q'ty	Part No.	SP Description
1pc	A-8272-811-A	o MOUNTED CIRCUIT BOARD, IF-538
1pc	3-693-198-01	o PANEL, PC BOARD IF-538
1pc	3-724-753-01	o RING
6pcs	3-729-061-01	s SCREW (M2X4.5) (TYPE 1)
C5	1-164-156-11	s CERAMIC 0.1uF 25V
C10	1-135-160-21	s CHIP, TANTALUM 15uF 10% 16V
C11	1-135-160-21	s CHIP, TANTALUM 15uF 10% 16V
C12	1-164-156-11	s CERAMIC 0.1uF 25V
C13	1-164-156-11	s CERAMIC 0.1uF 25V
C14	1-164-156-11	s CERAMIC 0.1uF 25V
C15	1-135-208-11	s TANTAL 1uF 20% 10V
C16	1-135-165-11	s TANTALUM, CHIP 33uF 10% 16V
C17	1-164-156-11	s CERAMIC 0.1uF 25V
C20	1-135-160-21	s CHIP, TANTALUM 15uF 10% 16V
C21	1-135-160-21	s CHIP, TANTALUM 15uF 10% 16V
C22	1-164-156-11	s CERAMIC 0.1uF 25V
C23	1-164-156-11	s CERAMIC 0.1uF 25V
C24	1-135-208-11	s TANTAL 1uF 20% 10V
C25	1-135-165-11	s TANTALUM, CHIP 33uF 10% 16V
C26	1-164-156-11	s CERAMIC 0.1uF 25V
C30	1-135-160-21	s CHIP, TANTALUM 15uF 10% 16V
C31	1-135-160-21	s CHIP, TANTALUM 15uF 10% 16V
C32	1-164-156-11	s CERAMIC 0.1uF 25V
C33	1-164-156-11	s CERAMIC 0.1uF 25V
C34	1-135-208-11	s TANTAL 1uF 20% 10V
C35	1-135-165-11	s TANTALUM, CHIP 33uF 10% 16V
C36	1-164-156-11	s CERAMIC 0.1uF 25V
C40	1-104-851-11	s TANTALUM, CHIP 10uF 20% 10V
C41	1-104-851-11	s TANTALUM, CHIP 10uF 20% 10V
C42	1-164-156-11	s CERAMIC 0.1uF 25V
C43	1-164-156-11	s CERAMIC 0.1uF 25V
C44	1-135-208-11	s TANTAL 1uF 20% 10V
C45	1-104-911-95	s TANTALUM, CHIP 33uF 10% 10V
C46	1-164-156-11	s CERAMIC 0.1uF 25V
C100	1-162-907-11	s CERAMIC, CHIP 2PF 50V
C101	1-104-914-11	s TANTAL 22uF 20% 16V
C102	1-104-914-11	s TANTAL 22uF 20% 16V
C120	1-104-914-11	s TANTAL 22uF 20% 16V
C121	1-104-914-11	s TANTAL 22uF 20% 16V
C122	1-164-156-11	s CERAMIC 0.1uF 25V
C123	1-162-907-11	s CERAMIC, CHIP 2PF 50V
C124	1-164-156-11	s CERAMIC 0.1uF 25V
C125	1-162-927-11	s CERAMIC, CHIP 100PF 5% 50V
C200	1-104-851-11	s TANTALUM, CHIP 10uF 20% 10V
C203	1-162-921-11	s CERAMIC, CHIP 33PF 5% 50V
C204	1-162-924-11	s CERAMIC 56PF 5% 50V
C205	1-104-914-11	s TANTAL 22uF 20% 16V
C206	1-104-910-11	s CHIP, TANTALUM 15uF 10% 10V
C250	1-164-156-11	s CERAMIC 0.1uF 25V
C251	1-104-913-11	s TANTALUM, CHIP 10uF 20% 16V
C350	1-164-156-11	s CERAMIC 0.1uF 25V
C351	1-164-156-11	s CERAMIC 0.1uF 25V
C352	1-104-914-11	s TANTAL 22uF 20% 16V
C353	1-104-914-11	s TANTAL 22uF 20% 16V
C354	1-164-156-11	s CERAMIC 0.1uF 25V
C355	1-162-907-11	s CERAMIC, CHIP 2PF 50V
C356	1-164-156-11	s CERAMIC 0.1uF 25V
C357	1-162-927-11	s CERAMIC, CHIP 100PF 5% 50V
C380	1-164-156-11	s CERAMIC 0.1uF 25V

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Ref. No. or Q'ty	Part No.	SP Description
C382	1-104-914-11	s TANTAL 22uF 20% 16V
C383	1-164-156-11	s CERAMIC 0.1uF 25V
C400	1-164-156-11	s CERAMIC 0.1uF 25V
C401	1-164-156-11	s CERAMIC 0.1uF 25V
C450	1-164-156-11	s CERAMIC 0.1uF 25V
C451	1-164-156-11	s CERAMIC 0.1uF 25V
C452	1-104-914-11	s TANTAL 22uF 20% 16V
C453	1-104-914-11	s TANTAL 22uF 20% 16V
C454	1-164-156-11	s CERAMIC 0.1uF 25V
C455	1-162-907-11	s CERAMIC, CHIP 2PF 50V
C456	1-164-156-11	s CERAMIC 0.1uF 25V
C457	1-162-927-11	s CERAMIC, CHIP 100PF 5% 50V
C500	1-164-156-11	s CERAMIC 0.1uF 25V
C501	1-164-156-11	s CERAMIC 0.1uF 25V
C502	1-164-156-11	s CERAMIC 0.1uF 25V
C550	1-162-927-11	s CERAMIC, CHIP 100PF 5% 50V
C551	1-162-927-11	s CERAMIC, CHIP 100PF 5% 50V
C600	1-104-914-11	s TANTAL 22uF 20% 16V
C601	1-164-156-11	s CERAMIC 0.1uF 25V
C650	1-164-156-11	s CERAMIC 0.1uF 25V
C651	1-164-156-11	s CERAMIC 0.1uF 25V
C652	1-104-914-11	s TANTAL 22uF 20% 16V
C680	1-164-156-11	s CERAMIC 0.1uF 25V
C683	1-164-156-11	s CERAMIC 0.1uF 25V
C685	1-164-156-11	s CERAMIC 0.1uF 25V
C688	1-162-958-11	s CERAMIC 270P 5% 50V
C700	1-162-915-11	s CERAMIC, CHIP 10PF 5PF 50V
C701	1-164-156-11	s CERAMIC 0.1uF 25V
C702	1-164-156-11	s CERAMIC 0.1uF 25V
C703	1-164-156-11	s CERAMIC 0.1uF 25V
C704	1-126-396-11	s ELECT, CHIP 47uF 20% 16V
C705	1-126-396-11	s ELECT, CHIP 47uF 20% 16V
C706	1-104-851-11	s TANTALUM, CHIP 10uF 20% 10V
C800	1-162-919-11	s CERAMIC, CHIP 22PF 5% 50V
C801	1-164-156-11	s CERAMIC 0.1uF 25V
C802	1-104-914-11	s TANTAL 22uF 20% 16V
C803	1-164-156-11	s CERAMIC 0.1uF 25V
C804	1-162-919-11	s CERAMIC, CHIP 22PF 5% 50V
C805	1-164-156-11	s CERAMIC 0.1uF 25V
C806	1-104-914-11	s TANTAL 22uF 20% 16V
C807	1-164-156-11	s CERAMIC 0.1uF 25V
C808	1-162-928-11	s CERAMIC 120PF 5% 50V
C809	1-164-363-11	s CERAMIC 560PF 5% 50V
C810	1-162-928-11	s CERAMIC 120PF 5% 50V
C811	1-164-156-11	s CERAMIC 0.1uF 25V
C812	1-104-910-11	s CHIP, TANTALUM 15uF 10% 10V
C813	1-104-914-11	s TANTAL 22uF 20% 16V
C814	1-164-363-11	s CERAMIC 560PF 5% 50V
C820	1-164-505-11	s CERAMIC, CHIP 2.2uF 16V
C821	1-164-156-11	s CERAMIC 0.1uF 25V
C822	1-164-156-11	s CERAMIC 0.1uF 25V
C823	1-104-914-11	s TANTAL 22uF 20% 16V
C824	1-162-917-11	s CERAMIC, CHIP 15PF 5% 50V
C825	1-162-923-11	s CERAMIC, CHIP 47PF 5% 50V
C826	1-162-923-11	s CERAMIC, CHIP 47PF 5% 50V
C827	1-104-851-11	s TANTALUM, CHIP 10uF 20% 10V
C828	1-162-928-11	s CERAMIC 120PF 5% 50V
C829	1-164-505-11	s CERAMIC, CHIP 2.2uF 16V
C830	1-164-156-11	s CERAMIC 0.1uF 25V
C831	1-164-505-11	s CERAMIC, CHIP 2.2uF 16V

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Ref. No. or Q'ty	Part No.	SP	Description
C832	1-104-851-11	s	TANTALUM, CHIP 10uF 20% 10V
C850	1-164-156-11	s	CERAMIC 0.1uF 25V
C851	1-164-156-11	s	CERAMIC 0.1uF 25V
C852	1-104-914-11	s	TANTAL 22uF 20% 16V
C853	1-164-156-11	s	CERAMIC 0.1uF 25V
C854	1-135-209-11	s	TANTALUM, CHIP 3.3uF 20% 10V
C855	1-164-156-11	s	CERAMIC 0.1uF 25V
C856	1-162-974-11	s	CERAMIC 0.01uF 50V
C857	1-104-914-11	s	TANTAL 22uF 20% 16V
C858	1-135-210-11	s	TANTALUM 4.7uF 10% 10V
C859	1-164-156-11	s	CERAMIC 0.1uF 25V
C860	1-135-179-21	s	TANTAL 2.2uF 10% 16V
C861	1-135-210-11	s	TANTALUM 4.7uF 10% 10V
C862	1-164-156-11	s	CERAMIC 0.1uF 25V
C863	1-104-914-11	s	TANTAL 22uF 20% 16V
C864	1-104-914-11	s	TANTAL 22uF 20% 16V
C865	1-162-916-11	s	CERAMIC, CHIP 12PF 5% 50V
C866	1-162-923-11	s	CERAMIC, CHIP 47PF 5% 50V
C867	1-162-923-11	s	CERAMIC, CHIP 47PF 5% 50V
C868	1-104-914-11	s	TANTAL 22uF 20% 16V
C870	1-104-913-11	s	TANTALUM, CHIP 10uF 20% 16V
C871	1-164-505-11	s	CERAMIC, CHIP 2.2uF 16V
C872	1-164-505-11	s	CERAMIC, CHIP 2.2uF 16V
C873	1-162-927-11	s	CERAMIC, CHIP 100PF 5% 50V
C874	1-162-927-11	s	CERAMIC, CHIP 100PF 5% 50V
C875	1-162-928-11	s	CERAMIC 120PF 5% 50V
C876	1-162-928-11	s	CERAMIC 120PF 5% 50V
C877	1-164-156-11	s	CERAMIC 0.1uF 25V
C878	1-164-505-11	s	CERAMIC, CHIP 2.2uF 16V
C879	1-164-505-11	s	CERAMIC, CHIP 2.2uF 16V
C880	1-164-505-11	s	CERAMIC, CHIP 2.2uF 16V
C881	1-162-927-11	s	CERAMIC, CHIP 100PF 5% 50V
C882	1-164-156-11	s	CERAMIC 0.1uF 25V
C883	1-164-156-11	s	CERAMIC 0.1uF 25V
C884	1-104-914-11	s	TANTAL 22uF 20% 16V
C885	1-104-910-11	s	CHIP, TANTALUM 15uF 10% 10V
C900	1-164-156-11	s	CERAMIC 0.1uF 25V
C901	1-164-156-11	s	CERAMIC 0.1uF 25V
C903	1-164-156-11	s	CERAMIC 0.1uF 25V
C904	1-104-914-11	s	TANTAL 22uF 20% 16V
C905	1-164-156-11	s	CERAMIC 0.1uF 25V
C1002	1-162-909-11	s	CERAMIC 4PF 0.25PF 50V
C1003	1-162-909-11	s	CERAMIC 4PF 0.25PF 50V
C1004	1-104-914-11	s	TANTAL 22uF 20% 16V
C1005	1-104-910-11	s	CHIP, TANTALUM 15uF 10% 10V
C1022	1-162-909-11	s	CERAMIC 4PF 0.25PF 50V
C1023	1-162-909-11	s	CERAMIC 4PF 0.25PF 50V
C1024	1-104-914-11	s	TANTAL 22uF 20% 16V
C1025	1-104-910-11	s	CHIP, TANTALUM 15uF 10% 10V
C1041	1-162-915-11	s	CERAMIC, CHIP 10PF 5PF 50V
C1042	1-162-911-11	s	CERAMIC, CHIP 6PF 50V
C1043	1-162-909-11	s	CERAMIC 4PF 0.25PF 50V
C1044	1-104-914-11	s	TANTAL 22uF 20% 16V
C1045	1-104-910-11	s	CHIP, TANTALUM 15uF 10% 10V
C1062	1-162-915-11	s	CERAMIC, CHIP 10PF 5PF 50V
C1063	1-164-156-11	s	CERAMIC 0.1uF 25V
C1064	1-164-156-11	s	CERAMIC 0.1uF 25V
C1067	1-135-070-00	s	TANTALUM, CHIP 0.1uF 10% 35V
C1068	1-164-156-11	s	CERAMIC 0.1uF 25V

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Ref. No. or Q'ty	Part No.	SP	Description
C1069	1-164-156-11	s	CERAMIC 0.1uF 25V
C1070	1-104-914-11	s	TANTAL 22uF 20% 16V
C1071	1-104-910-11	s	CHIP, TANTALUM 15uF 10% 10V
C1072	1-164-156-11	s	CERAMIC 0.1uF 25V
D10	8-719-029-63	s	DIODE RD4.3UH-T1
D20	8-719-029-63	s	DIODE RD4.3UH-T1
D30	8-719-029-63	s	DIODE RD4.3UH-T1
D40	8-719-029-57	s	DIODE RD2.4UH-T1
D100	8-719-820-41	s	DIODE 1SS302
D200	8-719-948-47	s	DIODE HSM88AS
D820	8-719-820-41	s	DIODE 1SS302
D870	8-719-820-41	s	DIODE 1SS302
D871	8-719-820-41	s	DIODE 1SS302
D872	8-719-820-41	s	DIODE 1SS302
D1062	8-719-820-41	s	DIODE 1SS302
IC10	8-759-076-06	s	IC TL064CPW
IC120	8-759-054-61	s	IC CLC505AJE
IC350	8-759-082-61	s	IC TC4W53FU
IC351	8-759-054-61	s	IC CLC505AJE
IC380	8-759-254-49	s	IC EL4581CS-TE2
IC400	8-759-089-61	s	IC TC74HC4052AFS(EL)
IC450	8-759-066-59	s	IC TC74HC4053AFS
IC451	8-759-054-61	s	IC CLC505AJE
IC500	8-759-082-58	s	IC TC7W08FU
IC501	8-759-058-64	s	IC TC7S32FU(TE85R)
IC502	8-759-058-54	s	IC TC7S00FU(TE85R)
IC550	8-759-079-52	s	IC TC74VHC08FS(EL)
IC600	8-759-058-62	s	IC TC7S08FU(TE85R)
IC601	8-759-082-55	s	IC TC7W00FU
IC602	8-759-237-79	s	IC TC74HC595AF(EL)
IC603	8-759-086-42	s	IC X24C02S-3.0-C7000
IC651	8-759-058-64	s	IC TC7S32FU(TE85R)
IC652	8-759-079-61	s	IC TC74VHC74FS(EL)
IC654	8-759-276-00	s	IC TC7W139FU(TE12R)
IC660	8-759-058-64	s	IC TC7S32FU(TE85R)
IC661	8-759-058-62	s	IC TC7S08FU
IC662	8-759-058-64	s	IC TC7S32FU(TE85R)
IC680	8-759-058-58	s	IC TC7S04FU(TE85R)
IC700	8-759-988-13	s	IC LM393PS
IC701	8-759-195-81	s	IC TC7S86FU
IC800	8-759-254-49	s	IC EL4581CS-TE2
IC801	8-759-254-49	s	IC EL4581CS-TE2
IC802	8-759-180-08	s	IC TC74HC4538AFS
IC803	8-759-050-06	s	IC SN74HC157APW
IC820	8-759-082-61	s	IC TC4W53FU
IC821	8-759-180-08	s	IC TC74HC4538AFS
IC850	8-759-271-16	s	IC MN8232A
IC851	8-759-271-15	s	IC HM53461JP-12
IC852	8-759-271-17	s	IC MN6790S
IC870	8-759-180-08	s	IC TC74HC4538AFS
IC871	8-759-058-54	s	IC TC7S00FU(TE85R)
IC872	8-759-089-61	s	IC TC74HC4052AFS(EL)
IC873	8-759-242-78	s	IC TC7W02F
IC874	8-759-058-55	s	IC TC7S02FU-TE85L
IC900	8-759-079-61	s	IC TC74VHC74FS(EL)
IC901	8-759-079-61	s	IC TC74VHC74FS(EL)
IC902	8-759-079-61	s	IC TC74VHC74FS(EL)
IC903	8-759-079-46	s	IC TC74VHC00FS(EL)

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Ref. No. or Q'ty	Part No.	SP	Description
IC904	8-759-082-55	s	IC TC7W00FU
IC1060	8-759-082-61	s	IC TC4W53FU
IC1061	8-759-081-48	s	IC TL082M
IC1062	8-759-082-61	s	IC TC4W53FU
IC1063	8-759-082-58	s	IC TC7W08FU
L10	1-410-737-31	s	INDUCTOR CHIP 0.47UH
L20	1-410-737-31	s	INDUCTOR CHIP 0.47UH
L30	1-410-737-31	s	INDUCTOR CHIP 0.47UH
L40	1-410-737-31	s	INDUCTOR CHIP 0.47UH
L140	1-412-026-11	s	INDUCTOR CHIP 1uH
L141	1-412-026-11	s	INDUCTOR CHIP 1uH
L351	1-412-026-11	s	INDUCTOR CHIP 1uH
L352	1-412-026-11	s	INDUCTOR CHIP 1uH
L353	1-412-026-11	s	INDUCTOR CHIP 1uH
L381	1-412-026-11	s	INDUCTOR CHIP 1uH
L382	1-412-029-11	s	INDUCTOR CHIP 10uH
L450	1-412-026-11	s	INDUCTOR CHIP 1uH
L451	1-412-026-11	s	INDUCTOR CHIP 1uH
L452	1-412-026-11	s	INDUCTOR CHIP 1uH
L550	1-412-026-11	s	INDUCTOR CHIP 1uH
L551	1-412-026-11	s	INDUCTOR CHIP 1uH
L700	1-412-026-11	s	INDUCTOR CHIP 1uH
L800	1-412-029-11	s	INDUCTOR CHIP 10uH
L820	1-410-388-31	s	INDUCTOR CHIP 39uH
L850	1-412-026-11	s	INDUCTOR CHIP 1uH
L851	1-412-029-11	s	INDUCTOR CHIP 10uH
L852	1-412-029-11	s	INDUCTOR CHIP 10uH
L853	1-410-385-11	s	INDUCTOR, CHIP 22uH
L870	1-412-026-11	s	INDUCTOR CHIP 1uH
L871	1-412-026-11	s	INDUCTOR CHIP 1uH
L872	1-412-026-11	s	INDUCTOR CHIP 1uH
L900	1-412-026-11	s	INDUCTOR CHIP 1uH
L1060	1-412-026-11	s	INDUCTOR CHIP 1uH
L1061	1-412-026-11	s	INDUCTOR CHIP 1uH
L1062	1-412-026-11	s	INDUCTOR CHIP 1uH
Q10	8-729-141-48	s	TRANSISTOR 2SB624-BV345
Q20	8-729-141-48	s	TRANSISTOR 2SB624-BV345
Q30	8-729-141-75	s	TRANSISTOR 2SD596DV345
Q40	8-729-141-75	s	TRANSISTOR 2SD596DV345
Q100	8-729-122-63	s	TRANSISTOR 2SA1226
Q101	8-729-122-63	s	TRANSISTOR 2SA1226
Q102	8-729-122-63	s	TRANSISTOR 2SA1226
Q200	8-729-117-32	s	TRANSISTOR 2SC4177
Q201	8-729-117-16	s	TRANSISTOR 2SA1611-M6
Q203	8-729-117-32	s	TRANSISTOR 2SC4177
Q250	8-729-920-48	s	TRANSISTOR IMH2
Q251	8-729-920-48	s	TRANSISTOR IMH2
Q252	8-729-028-91	s	TRANSISTOR DTA144EUA-T106
Q300	8-729-117-32	s	TRANSISTOR 2SC4177
Q301	8-729-117-32	s	TRANSISTOR 2SC4177
Q302	8-729-117-16	s	TRANSISTOR 2SA1611-M6
Q350	8-729-117-16	s	TRANSISTOR 2SA1611-M6
Q351	8-729-117-32	s	TRANSISTOR 2SC4177
Q380	8-729-117-32	s	TRANSISTOR 2SC4177
Q400	8-729-117-16	s	TRANSISTOR 2SA1611-M6
Q401	8-729-117-32	s	TRANSISTOR 2SC4177
Q402	8-729-117-16	s	TRANSISTOR 2SA1611-M6

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Ref. No. or Q'ty	Part No.	SP	Description
Q403	8-729-117-16	s	TRANSISTOR 2SA1611-M6
Q450	8-729-117-16	s	TRANSISTOR 2SA1611-M6
Q451	8-729-117-32	s	TRANSISTOR 2SC4177
Q550	8-729-117-16	s	TRANSISTOR 2SA1611-M6
Q551	8-729-117-16	s	TRANSISTOR 2SA1611-M6
Q650	8-729-029-14	s	TRANSISTOR DTC144EUA-T106
Q680	8-729-117-16	s	TRANSISTOR 2SA1611-M6
Q681	8-729-117-32	s	TRANSISTOR 2SC4177
Q700	8-729-230-49	s	TRANSISTOR 2SC2712-YG
Q701	8-729-800-37	s	TRANSISTOR 2SD1048-X7
Q702	8-729-141-48	s	TRANSISTOR 2SB624-BV345
Q800	8-729-117-16	s	TRANSISTOR 2SA1611-M6
Q801	8-729-117-16	s	TRANSISTOR 2SA1611-M6
Q818	8-729-117-32	s	TRANSISTOR 2SC4177
Q819	8-729-117-32	s	TRANSISTOR 2SC4177
Q820	8-729-117-16	s	TRANSISTOR 2SA1611-M6
Q821	8-729-117-16	s	TRANSISTOR 2SA1611-M6
Q822	8-729-117-32	s	TRANSISTOR 2SC4177
Q823	8-729-026-32	s	TRANSISTOR XP6534
Q824	8-729-026-31	s	TRANSISTOR XP6435
Q825	8-729-117-16	s	TRANSISTOR 2SA1611-M6
Q826	8-729-026-32	s	TRANSISTOR XP6534
Q827	8-729-117-32	s	TRANSISTOR 2SC4177
Q828	8-729-117-32	s	TRANSISTOR 2SC4177
Q870	8-729-230-38	s	TRANSISTOR 2SC4215Y
Q871	8-729-427-83	s	TRANSISTOR XP6501
Q872	8-729-427-83	s	TRANSISTOR XP6501
Q873	8-729-117-16	s	TRANSISTOR 2SA1611-M6
Q874	8-729-117-16	s	TRANSISTOR 2SA1611-M6
Q875	8-729-117-16	s	TRANSISTOR 2SA1611-M6
Q876	8-729-117-32	s	TRANSISTOR 2SC4177
Q1000	8-729-026-32	s	TRANSISTOR XP6534
Q1001	8-729-122-63	s	TRANSISTOR 2SA1226
Q1002	8-729-102-08	s	TRANSISTOR 2SC2223-F14
Q1020	8-729-026-32	s	TRANSISTOR XP6534
Q1021	8-729-122-63	s	TRANSISTOR 2SA1226
Q1022	8-729-102-08	s	TRANSISTOR 2SC2223-F14
Q1040	8-729-026-32	s	TRANSISTOR XP6534
Q1041	8-729-122-63	s	TRANSISTOR 2SA1226
Q1042	8-729-102-08	s	TRANSISTOR 2SC2223-F14
Q1043	8-729-117-16	s	TRANSISTOR 2SA1611-M6
Q1062	8-729-117-32	s	TRANSISTOR 2SC4177
R10	1-218-748-11	s	CHIP, METAL 220K 0.50% 1/16W
R11	1-218-748-11	s	CHIP, METAL 220K 0.50% 1/16W
R12	1-218-716-11	s	METAL 10K 0.50% 1/16W
R13	1-218-677-11	s	CHIP, METAL 240 0.50% 1/16W
R14	1-218-723-11	s	METAL 20K 0.50% 1/16W
R15	1-218-724-11	s	CHIP, METAL 22K 5% 1/16W
R20	1-216-864-11	s	METAL, CHIP 0 5% 1/16W
R21	1-218-729-11	s	CHIP, METAL 36K 0.50% 1/16W
R22	1-218-723-11	s	METAL 20K 0.50% 1/16W
R23	1-218-856-11	s	CHIP, METAL 2.4K 0.50% 1/16W
R30	1-216-864-11	s	METAL, CHIP 0 5% 1/16W
R31	1-218-723-11	s	METAL 20K 0.50% 1/16W
R32	1-218-723-11	s	METAL 20K 0.50% 1/16W
R41	1-218-729-11	s	CHIP, METAL 36K 0.50% 1/16W
R42	1-218-723-11	s	METAL 20K 0.50% 1/16W
R100	1-218-856-11	s	CHIP, METAL 2.4K 0.50% 1/16W

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Ref. No. or Q'ty	Part No.	SP	Description
R101	1-218-710-11	s	CHIP, METAL 5.6K 0.50% 1/16W
R102	1-216-829-11	s	METAL, CHIP 4.7K 5% 1/16W
R103	1-218-840-11	s	CHIP, METAL 510 0.50% 1/16W
R104	1-218-858-11	s	CHIP, METAL 3K 0.50% 1/16W
R105	1-218-840-11	s	CHIP, METAL 510 0.50% 1/16W
R120	1-218-699-11	s	CHIP, METAL 2K 0.50% 1/16W
R121	1-218-655-91	s	CHIP, METAL 30 0.50% 1/16W
R122	1-218-698-11	s	METAL 1.8K 0.50% 1/16W
R123	1-218-680-11	s	METAL 330 0.50% 1/16W
R124	1-218-692-11	s	CHIP, METAL 1K 0.50% 1/16W
R125	1-218-883-11	s	METAL 33K 0.50% 1/16W
R126	1-211-990-11	s	CHIP, METAL 75 0.50% 1/16W
R146	1-211-990-11	s	CHIP, METAL 75 0.50% 1/16W
R200	1-218-692-11	s	CHIP, METAL 1K 0.50% 1/16W
R201	1-218-668-11	s	CHIP, METAL 100 0.50% 1/16W
R202	1-216-845-11	s	METAL, CHIP 100K 5% 1/16W
R203	1-218-700-11	s	METAL 2.2K 0.50% 1/16W
R204	1-218-883-11	s	METAL 33K 0.50% 1/16W
R205	1-216-829-11	s	METAL, CHIP 4.7K 5% 1/16W
R207	1-218-700-11	s	METAL 2.2K 0.50% 1/16W
R209	1-218-692-11	s	CHIP, METAL 1K 0.50% 1/16W
R250	1-218-716-11	s	METAL 10K 0.50% 1/16W
R251	1-218-724-11	s	CHIP, METAL 22K 5% 1/16W
R252	1-218-692-11	s	CHIP, METAL 1K 0.50% 1/16W
R300	1-218-692-11	s	CHIP, METAL 1K 0.50% 1/16W
R301	1-218-704-11	s	METAL 3.3K 0.50% 1/16W
R302	1-218-668-11	s	CHIP, METAL 100 0.50% 1/16W
R303	1-216-857-11	s	METAL, CHIP 1M 5% 1/16W
R304	1-218-704-11	s	METAL 3.3K 0.50% 1/16W
R305	1-218-858-11	s	CHIP, METAL 3K 0.50% 1/16W
R307	1-218-716-11	s	METAL 10K 0.50% 1/16W
R308	1-218-692-11	s	CHIP, METAL 1K 0.50% 1/16W
R309	1-216-831-11	s	METAL, CHIP 6.8K 5% 1/16W
R315	1-216-817-11	s	METAL, CHIP 470 5% 1/16W
R350	1-216-831-11	s	METAL, CHIP 6.8K 5% 1/16W
R351	1-218-704-11	s	METAL 3.3K 0.50% 1/16W
R352	1-218-699-11	s	CHIP, METAL 2K 0.50% 1/16W
R353	1-211-990-11	s	CHIP, METAL 75 0.50% 1/16W
R354	1-218-702-11	s	CHIP, METAL 2.7K 0.50% 1/16W
R355	1-218-680-11	s	METAL 330 0.50% 1/16W
R356	1-218-692-11	s	CHIP, METAL 1K 0.50% 1/16W
R357	1-218-883-11	s	METAL 33K 0.50% 1/16W
R358	1-218-668-11	s	CHIP, METAL 100 0.50% 1/16W
R359	1-211-990-11	s	CHIP, METAL 75 0.50% 1/16W
R380	1-218-700-11	s	METAL 2.2K 0.50% 1/16W
R381	1-218-700-11	s	METAL 2.2K 0.50% 1/16W
R382	1-218-864-11	s	CHIP, METAL 5.1K 0.50% 1/16W
R383	1-216-855-11	s	METAL, CHIP 680K 5% 1/16W
R400	1-218-724-11	s	CHIP, METAL 22K 5% 1/16W
R401	1-218-676-11	s	METAL 220 0.50% 1/16W
R402	1-216-829-11	s	METAL, CHIP 4.7K 5% 1/16W
R403	1-218-700-11	s	METAL 2.2K 0.50% 1/16W
R410	1-216-829-11	s	METAL, CHIP 4.7K 5% 1/16W
R411	1-216-829-11	s	METAL, CHIP 4.7K 5% 1/16W
R450	1-216-831-11	s	METAL, CHIP 6.8K 5% 1/16W
R451	1-218-695-11	s	METAL 1.3K 0.50% 1/16W
R452	1-218-699-11	s	CHIP, METAL 2K 0.50% 1/16W
R453	1-216-864-11	s	METAL, CHIP 0 5% 1/16W
R454	1-218-699-11	s	CHIP, METAL 2K 0.50% 1/16W

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Ref. No. or Q'ty	Part No.	SP	Description
R455	1-218-680-11	s	METAL 330 0.50% 1/16W
R456	1-218-692-11	s	CHIP, METAL 1K 0.50% 1/16W
R457	1-218-883-11	s	METAL 33K 0.50% 1/16W
R458	1-211-990-11	s	CHIP, METAL 75 0.50% 1/16W
R461	1-216-864-11	s	METAL, CHIP 0 5% 1/16W
R520	1-218-668-11	s	CHIP, METAL 100 0.50% 1/16W
R521	1-218-668-11	s	CHIP, METAL 100 0.50% 1/16W
R522	1-216-857-11	s	METAL, CHIP 1M 5% 1/16W
R523	1-216-857-11	s	METAL, CHIP 1M 5% 1/16W
R550	1-216-831-11	s	METAL, CHIP 6.8K 5% 1/16W
R551	1-218-833-11	s	CHIP, METAL 270 0.50% 1/16W
R552	1-218-700-11	s	METAL 2.2K 0.50% 1/16W
R553	1-216-831-11	s	METAL, CHIP 6.8K 5% 1/16W
R554	1-218-833-11	s	CHIP, METAL 270 0.50% 1/16W
R555	1-218-697-11	s	METAL 1.6K 0.50% 1/16W
R570	1-218-668-11	s	CHIP, METAL 100 0.50% 1/16W
R571	1-218-668-11	s	CHIP, METAL 100 0.50% 1/16W
R572	1-216-857-11	s	METAL, CHIP 1M 5% 1/16W
R573	1-216-857-11	s	METAL, CHIP 1M 5% 1/16W
R600	1-216-857-11	s	METAL, CHIP 1M 5% 1/16W
R601	1-218-748-11	s	CHIP, METAL 220K 0.50% 1/16W
R602	1-216-845-11	s	METAL, CHIP 100K 5% 1/16W
R603	1-218-668-11	s	METAL 100 0.50% 1/16W
R604	1-218-668-11	s	CHIP, METAL 100 0.50% 1/16W
R605	1-218-668-11	s	CHIP, METAL 100 0.50% 1/16W
R620	1-216-857-11	s	METAL, CHIP 1M 5% 1/16W
R621	1-218-668-11	s	CHIP, METAL 100 0.50% 1/16W
R650	1-218-724-11	s	CHIP, METAL 22K 5% 1/16W
R651	1-218-724-11	s	CHIP, METAL 22K 5% 1/16W
R680	1-216-829-11	s	METAL, CHIP 4.7K 5% 1/16W
R681	1-218-668-11	s	CHIP, METAL 100 0.50% 1/16W
R682	1-218-714-11	s	METAL 8.2K 0.50% 1/16W
R683	1-218-692-11	s	CHIP, METAL 1K 0.50% 1/16W
R684	1-216-831-11	s	METAL, CHIP 6.8K 5% 1/16W
R685	1-218-700-11	s	METAL 2.2K 0.50% 1/16W
R686	1-218-700-11	s	METAL 2.2K 0.50% 1/16W
R687	1-218-700-11	s	METAL 2.2K 0.50% 1/16W
R688	1-211-969-11	s	CHIP, METAL 10 0.50% 1/16W
R700	1-218-732-11	s	METAL 47K 0.50% 1/16W
R701	1-218-699-11	s	CHIP, METAL 2K 0.50% 1/16W
R702	1-218-720-11	s	METAL 15K 0.50% 1/16W
R703	1-218-720-11	s	METAL 15K 0.50% 1/16W
R704	1-218-692-11	s	CHIP, METAL 1K 0.50% 1/16W
R705	1-218-725-11	s	METAL 24K 0.50% 1/16W
R706	1-218-727-11	s	METAL 30K 0.50% 1/16W
R707	1-218-716-11	s	METAL 10K 0.50% 1/16W
R708	1-218-732-11	s	METAL 47K 0.50% 1/16W
R709	1-218-732-11	s	METAL 47K 0.50% 1/16W
R710	1-218-716-11	s	METAL 10K 0.50% 1/16W
R711	1-218-883-11	s	METAL 33K 0.50% 1/16W
R712	1-216-838-11	s	METAL, CHIP 27K 5% 1/16W
R713	1-216-029-00	s	METAL, CHIP 150 5% 1/10W
R714	1-216-029-00	s	METAL, CHIP 150 5% 1/10W
R715	1-216-029-00	s	METAL, CHIP 150 5% 1/10W
R716	1-216-029-00	s	METAL, CHIP 150 5% 1/10W
R717	1-216-029-00	s	METAL, CHIP 150 5% 1/10W
R718	1-216-029-00	s	METAL, CHIP 150 5% 1/10W
R719	1-218-668-11	s	CHIP, METAL 100 0.50% 1/16W
R720	1-216-857-11	s	METAL, CHIP 1M 5% 1/16W

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Ref. No. or Q'ty	Part No.	SP Description
R800	1-216-836-11	s METAL, CHIP 18K 5% 1/16W
R801	1-218-716-11	s METAL, 10K 0.50% 1/16W
R802	1-216-855-11	s METAL, CHIP 680K 5% 1/16W
R803	1-216-836-11	s METAL, CHIP 18K 5% 1/16W
R804	1-218-716-11	s METAL 10K 0.50% 1/16W
R805	1-216-855-11	s METAL, CHIP 680K 5% 1/16W
R806	1-216-845-11	s METAL, CHIP 100K 5% 1/16W
R807	1-216-845-11	s METAL, CHIP 100K 5% 1/16W
R808	1-218-700-11	s METAL 2.2K 0.50% 1/16W
R818	1-218-704-11	s METAL 3.3K 0.50% 1/16W
R819	1-218-704-11	s METAL 3.3K 0.50% 1/16W
R820	1-216-831-11	s METAL, CHIP 6.8K 5% 1/16W
R821	1-216-831-11	s METAL, CHIP 6.8K 5% 1/16W
R822	1-218-704-11	s METAL 3.3K 0.50% 1/16W
R824	1-218-668-11	s CHIP, METAL 100 0.50% 1/16W
R825	1-218-851-11	s CHIP, METAL 1.5K 0.50% 1/16W
R826	1-218-700-11	s METAL 2.2K 0.50% 1/16W
R827	1-218-851-11	s CHIP, METAL 1.5K 0.50% 1/16W
R828	1-218-668-11	s CHIP, METAL 100 0.50% 1/16W
R829	1-218-692-11	s CHIP, METAL 1K 0.50% 1/16W
R830	1-218-692-11	s CHIP, METAL 1K 0.50% 1/16W
R831	1-216-831-11	s METAL, CHIP 6.8K 5% 1/16W
R832	1-218-692-11	s CHIP, METAL 1K 0.50% 1/16W
R833	1-218-692-11	s CHIP, METAL 1K 0.50% 1/16W
R834	1-218-868-11	s CHIP, METAL 7.5K 0.50% 1/16W
R835	1-218-702-11	s CHIP, METAL 2.7K 0.50% 1/16W
R836	1-218-702-11	s CHIP, METAL 2.7K 0.50% 1/16W
R837	1-218-724-11	s CHIP, METAL 22K 5% 1/16W
R838	1-218-700-11	s METAL 2.2K 0.50% 1/16W
R839	1-218-704-11	s METAL 3.3K 0.50% 1/16W
R840	1-218-724-11	s CHIP, METAL 22K 5% 1/16W
R841	1-218-721-11	s METAL 16K 0.50% 1/16W
R842	1-218-886-11	s CHIP, METAL 43K 0.50% 1/16W
R843	1-218-692-11	s CHIP, METAL 1K 0.50% 1/16W
R844	1-216-845-11	s METAL, CHIP 100K 5% 1/16W
R845	1-218-716-11	s METAL 10K 0.50% 1/16W
R846	1-218-716-11	s METAL 10K 0.50% 1/16W
R847	1-218-724-11	s CHIP, METAL 22K 5% 1/16W
R848	1-218-725-11	s METAL 24K 0.50% 1/16W
R850	1-218-695-11	s METAL 1.3K 0.50% 1/16W
R851	1-211-991-11	s CHIP, METAL 82 0.50% 1/16W
R852	1-218-738-11	s CHIP, METAL 82K 0.50% 1/16W
R853	1-218-837-11	s CHIP, METAL 390 0.50% 1/16W
R854	1-218-676-11	s METAL 220 0.50% 1/16W
R855	1-218-692-11	s CHIP, METAL 1K 0.50% 1/16W
R856	1-218-692-11	s CHIP, METAL 1K 0.50% 1/16W
R857	1-218-664-11	s CHIP, METAL 68 0.50% 1/16W
R858	1-218-692-11	s CHIP, METAL 1K 0.50% 1/16W
R859	1-218-844-11	s CHIP, METAL 750 0.50% 1/16W
R860	1-218-844-11	s CHIP, METAL 750 0.50% 1/16W
R861	1-216-857-11	s METAL, CHIP 1M 5% 1/16W
R862	1-218-748-11	s CHIP, METAL 220K 0.50% 1/16W
R870	1-216-831-11	s METAL, CHIP 6.8K 5% 1/16W
R871	1-218-700-11	s METAL 2.2K 0.50% 1/16W
R872	1-218-700-11	s METAL 2.2K 0.50% 1/16W
R873	1-216-834-11	s METAL, CHIP 12K 5% 1/16W
R874	1-216-834-11	s METAL, CHIP 12K 5% 1/16W
R875	1-218-692-11	s CHIP, METAL 1K 0.50% 1/16W
R876	1-216-845-11	s METAL, CHIP 100K 5% 1/16W

(IF-538 BOARD)

Ref. No. or Q'ty	Part No.	SP Description
R877	1-218-692-11	s CHIP, METAL 1K 0.50% 1/16W
R878	1-216-845-11	s METAL, CHIP 100K 5% 1/16W
R879	1-218-692-11	s CHIP, METAL 1K 0.50% 1/16W
R880	1-216-845-11	s METAL, CHIP 100K 5% 1/16W
R881	1-218-700-11	s METAL 2.2K 0.50% 1/16W
R882	1-216-831-11	s METAL, CHIP 6.8K 5% 1/16W
R883	1-216-831-11	s METAL, CHIP 6.8K 5% 1/16W
R884	1-216-831-11	s METAL, CHIP 6.8K 5% 1/16W
R885	1-218-704-11	s METAL 3.3K 0.50% 1/16W
R900	1-216-864-11	s METAL, CHIP 0 5% 1/16W
R902	1-216-857-11	s METAL, CHIP 1M 5% 1/16W
R903	1-218-668-11	s CHIP, METAL 100 0.50% 1/16W
R904	1-218-668-11	s CHIP, METAL 100 0.50% 1/16W
R905	1-218-668-11	s CHIP, METAL 100 0.50% 1/16W
R906	1-218-668-11	s CHIP, METAL 100 0.50% 1/16W
R907	1-216-857-11	s METAL, CHIP 1M 5% 1/16W
R908	1-216-857-11	s METAL, CHIP 1M 5% 1/16W
R1000	1-218-858-11	s CHIP, METAL 3K 0.50% 1/16W
R1001	1-216-864-11	s METAL, CHIP 0 5% 1/16W
R1002	1-218-698-11	s METAL 1.8K 0.50% 1/16W
R1003	1-218-671-11	s CHIP, METAL 130 0.50% 1/16W
R1004	1-218-851-11	s CHIP, METAL 1.5K 0.50% 1/16W
R1005	1-218-698-11	s METAL 1.8K 0.50% 1/16W
R1006	1-218-694-11	s CHIP, METAL 1.2K 0.50% 1/16W
R1007	1-218-698-11	s METAL 1.8K 0.50% 1/16W
R1008	1-218-710-11	s CHIP, METAL 5.6K 0.50% 1/16W
R1009	1-218-660-91	s CHIP, METAL 47 0.50% 1/16W
R1010	1-216-864-11	s METAL, CHIP 0 5% 1/16W
R1011	1-218-851-11	s CHIP, METAL 1.5K 0.50% 1/16W
R1014	1-211-969-11	s CHIP, METAL 10 0.50% 1/16W
R1020	1-218-858-11	s CHIP, METAL 3K 0.50% 1/16W
R1021	1-216-864-11	s METAL, CHIP 0 5% 1/16W
R1022	1-218-851-11	s CHIP, METAL 1.5K 0.50% 1/16W
R1023	1-218-650-11	s METAL, CHIP 18 0.50% 1/16
R1024	1-218-698-11	s METAL 1.8K 0.50% 1/16W
R1025	1-218-851-11	s CHIP, METAL 1.5K 0.50% 1/16W
R1026	1-218-694-11	s CHIP, METAL 1.2K 0.50% 1/16W
R1027	1-218-698-11	s METAL 1.8K 0.50% 1/16W
R1028	1-218-710-11	s CHIP, METAL 5.6K 0.50% 1/16W
R1029	1-218-660-91	s CHIP, METAL 47 0.50% 1/16W
R1030	1-216-864-11	s METAL, CHIP 0 5% 1/16W
R1031	1-218-851-11	s CHIP, METAL 1.5K 0.50% 1/16W
R1034	1-211-969-11	s CHIP, METAL 10 0.50% 1/16W
R1040	1-216-864-11	s METAL, CHIP 0 5% 1/16W
R1041	1-218-858-11	s CHIP, METAL 3K 0.50% 1/16W
R1042	1-218-698-11	s METAL 1.8K 0.50% 1/16W
R1043	1-218-694-11	s CHIP, METAL 1.2K 0.50% 1/16W
R1044	1-218-846-11	s CHIP, METAL 910 0.50% 1/16W
R1045	1-211-992-11	s CHIP, METAL 91 0.50% 1/16W
R1046	1-218-840-11	s CHIP, METAL 510 0.50% 1/16W
R1047	1-218-699-11	s CHIP, METAL 2K 0.50% 1/16W
R1048	1-218-664-11	s CHIP, METAL 68 0.50% 1/16W
R1049	1-218-698-11	s METAL 1.8K 0.50% 1/16W
R1050	1-218-710-11	s CHIP, METAL 5.6K 0.50% 1/16W
R1051	1-218-660-91	s CHIP, METAL 47 0.50% 1/16W
R1052	1-218-851-11	s CHIP, METAL 1.5K 0.50% 1/16W
R1053	1-216-831-11	s METAL, CHIP 6.8K 5% 1/16W
R1055	1-211-969-11	s CHIP, METAL 10 0.50% 1/16W
R1064	1-218-692-11	s CHIP, METAL 1K 0.50% 1/16W

(IF-538 BOARD)

Ref. No. or Q'ty	Part No.	SP Description
R1065	1-218-704-11	s METAL 3.3K 0.50% 1/16W
R1066	1-218-704-11	s METAL 3.3K 0.50% 1/16W
R1067	1-218-716-11	s METAL 10K 0.50% 1/16W
R1068	1-218-668-11	s CHIP, METAL 100 0.50% 1/16W
R1071	1-218-668-11	s CHIP, METAL 100 0.50% 1/16W
R1073	1-218-704-11	s METAL 3.3K 0.50% 1/16W
R1074	1-218-716-11	s METAL 10K 0.50% 1/16W
R1075	1-216-845-11	s METAL, CHIP 100K 5% 1/16W
R1076	1-216-845-11	s METAL, CHIP 100K 5% 1/16W
R1077	1-218-668-11	s CHIP, METAL 100 0.50% 1/16W
R1078	1-218-668-11	s CHIP, METAL 100 0.50% 1/16W
R1080	1-216-864-11	s METAL, CHIP 0 5% 1/16W
R1081	1-216-864-11	s METAL, CHIP 0 5% 1/16W
R1082	1-216-864-11	s METAL, CHIP 0 5% 1/16W
RV100	1-241-260-11	s METAL, ADJ 500
S200	1-572-272-11	s SWITCH, SLIDE
S650	1-762-118-21	s SWITCH, TOGGLE

LE-130 BOARD

Ref. No. or Q'ty	Part No.	SP Description
1pc	A-8272-819-A	o MOUNTED CIRCUIT BOARD, LE-130
C1	1-104-919-11	s TANTALUM, CHIP 10uF 20% 25V
C2	1-104-919-11	s TANTALUM, CHIP 10uF 20% 25V
C3	1-104-848-11	s TANTALUM, CHIP 100uF 20% 4V
C4	1-163-038-00	s CHIP, CERAMIC 0.1uF 25V
C5	1-163-038-00	s CHIP, CERAMIC 0.1uF 25V
C6	1-163-038-00	s CHIP, CERAMIC 0.1uF 25V
CN41	1-506-482-11	o PIN, CONNECTOR 3P
D1	8-719-042-86	s DIODE LT9527U
D2	8-719-042-86	s DIODE LT9527U
D3	8-719-042-86	s DIODE LT9527U
D4	8-719-042-86	s DIODE LT9527U
D5	8-719-042-86	s DIODE LT9527U
Q1	8-729-807-51	s TRANSISTOR 2SD1623-S
Q2	8-729-807-51	s TRANSISTOR 2SD1623-S
Q3	8-729-807-51	s TRANSISTOR 2SD1623-S
Q4	8-729-807-51	s TRANSISTOR 2SD1623-S
Q5	8-729-807-51	s TRANSISTOR 2SD1623-S
Q6	8-729-807-51	s TRANSISTOR 2SD1623-S
Q7	8-729-807-51	s TRANSISTOR 2SD1623-S
Q8	8-729-807-51	s TRANSISTOR 2SD1623-S
Q9	8-729-216-22	s TRANSISTOR 2SA1162
Q10	8-729-901-01	s TRANSISTOR DTC144EK
Q11	8-729-120-28	s TRANSISTOR 2SC1623-L5L6
R1	1-216-621-11	s CHIP, METAL 56 0.50% 1/10W
R2	1-216-621-11	s CHIP, METAL 56 0.50% 1/10W
R3	1-216-621-11	s CHIP, METAL 56 0.50% 1/10W
R4	1-216-621-11	s CHIP, METAL 56 0.50% 1/10W
R5	1-216-621-11	s CHIP, METAL 56 0.50% 1/10W
R6	1-216-621-11	s CHIP, METAL 56 0.50% 1/10W
R7	1-216-621-11	s CHIP, METAL 56 0.50% 1/10W
R8	1-216-621-11	s CHIP, METAL 56 0.50% 1/10W
R9	1-216-621-11	s CHIP, METAL 56 0.50% 1/10W
R10	1-216-621-11	s CHIP, METAL 56 0.50% 1/10W
R11	1-216-298-00	s CHIP, METAL 2.2 5% 1/10W
R12	1-216-298-00	s CHIP, METAL 2.2 5% 1/10W
R13	1-208-800-11	s CHIP, METAL 5.6K 0.50% 1/10W
R14	1-208-806-11	s CHIP, METAL 10K 0.50% 1/10W
R15	1-216-665-11	s METAL, CHIP 3.9K 0.5% 1/10W
R16	1-208-806-11	s CHIP, METAL 10K 0.50% 1/10W
R17	1-208-806-11	s CHIP, METAL 10K 0.50% 1/10W

LF-31 BOARD

Ref. No. or Q'ty	Part No.	SP Description
1pc	△ A-8314-059-A	s MOUNTED CIRCUIT BOARD, LF-31

MB-637 BOARD

Ref. No. or Q'ty	Part No.	SP Description
1pc	A-8272-809-A	o MOUNTED CIRCUIT BOARD, MB-637
4pcs	2-280-622-01	o SUPPORT (M3), HEXAGON
4pcs	7-682-545-04	s SCREW +B 3X4
27pcs	3-729-061-01	s SCREW (M2X4.5) (TYPE 1)
C5	1-164-156-11	s CERAMIC, CHIP 0.1uF 25V
C6	1-164-156-11	s CERAMIC, CHIP 0.1uF 25V
C7	1-164-156-11	s CERAMIC, CHIP 0.1uF 25V
C8	1-164-156-11	s CERAMIC, CHIP 0.1uF 25V
C9	1-164-156-11	s CERAMIC, CHIP 0.1uF 25V
C10	1-162-970-11	s CERAMIC, CHIP 0.01uF 10% 25V
C11	1-162-970-11	s CERAMIC, CHIP 0.01uF 10% 25V
C12	1-162-970-11	s CERAMIC, CHIP 0.01uF 10% 25V
C13	1-162-970-11	s CERAMIC, CHIP 0.01uF 10% 25V
C14	1-162-970-11	s CERAMIC, CHIP 0.01uF 10% 25V
C15	1-162-970-11	s CERAMIC, CHIP 0.01uF 10% 25V
C16	1-162-970-11	s CERAMIC, CHIP 0.01uF 10% 25V
C17	1-162-970-11	s CERAMIC, CHIP 0.01uF 10% 25V
C18	1-162-970-11	s CERAMIC, CHIP 0.01uF 10% 25V
C19	1-162-970-11	s CERAMIC, CHIP 0.01uF 10% 25V
C20	1-162-970-11	s CERAMIC, CHIP 0.01uF 10% 25V
C21	1-162-970-11	s CERAMIC, CHIP 0.01uF 10% 25V
C22	1-162-970-11	s CERAMIC, CHIP 0.01uF 10% 25V
C23	1-162-970-11	s CERAMIC, CHIP 0.01uF 10% 25V
C24	1-162-970-11	s CERAMIC, CHIP 0.01uF 10% 25V
C25	1-162-970-11	s CERAMIC, CHIP 0.01uF 10% 25V
C26	1-162-970-11	s CERAMIC, CHIP 0.01uF 10% 25V
C27	1-162-970-11	s CERAMIC, CHIP 0.01uF 10% 25V
C28	1-162-970-11	s CERAMIC, CHIP 0.01uF 10% 25V
C29	1-162-970-11	s CERAMIC, CHIP 0.01uF 10% 25V
C30	1-162-970-11	s CERAMIC, CHIP 0.01uF 10% 25V
C31	1-162-970-11	s CERAMIC, CHIP 0.01uF 10% 25V
C32	1-162-970-11	s CERAMIC, CHIP 0.01uF 10% 25V
C33	1-162-970-11	s CERAMIC, CHIP 0.01uF 10% 25V
C34	1-162-970-11	s CERAMIC, CHIP 0.01uF 10% 25V
C35	1-162-970-11	s CERAMIC, CHIP 0.01uF 10% 25V
C36	1-162-970-11	s CERAMIC, CHIP 0.01uF 10% 25V
C37	1-162-970-11	s CERAMIC, CHIP 0.01uF 10% 25V
C38	1-162-970-11	s CERAMIC, CHIP 0.01uF 10% 25V
C39	1-162-970-11	s CERAMIC, CHIP 0.01uF 10% 25V
C40	1-162-970-11	s CERAMIC, CHIP 0.01uF 10% 25V
C41	1-162-970-11	s CERAMIC, CHIP 0.01uF 10% 25V
C43	1-162-970-11	s CERAMIC, CHIP 0.01uF 10% 25V
C45	1-162-970-11	s CERAMIC, CHIP 0.01uF 10% 25V
C47	1-162-970-11	s CERAMIC, CHIP 0.01uF 10% 25V
C48	1-162-970-11	s CERAMIC, CHIP 0.01uF 10% 25V
C49	1-162-970-11	s CERAMIC, CHIP 0.01uF 10% 25V
C51	1-162-970-11	s CERAMIC, CHIP 0.01uF 10% 25V
C52	1-162-970-11	s CERAMIC, CHIP 0.01uF 10% 25V
C53	1-162-970-11	s CERAMIC, CHIP 0.01uF 10% 25V
C54	1-162-970-11	s CERAMIC, CHIP 0.01uF 10% 25V
C55	1-162-970-11	s CERAMIC, CHIP 0.01uF 10% 25V
C56	1-162-970-11	s CERAMIC, CHIP 0.01uF 10% 25V
C57	1-162-970-11	s CERAMIC, CHIP 0.01uF 10% 25V
C58	1-162-970-11	s CERAMIC, CHIP 0.01uF 10% 25V
C59	1-162-970-11	s CERAMIC, CHIP 0.01uF 10% 25V
C60	1-162-970-11	s CERAMIC, CHIP 0.01uF 10% 25V
C61	1-162-970-11	s CERAMIC, CHIP 0.01uF 10% 25V
C62	1-162-970-11	s CERAMIC, CHIP 0.01uF 10% 25V
C63	1-162-970-11	s CERAMIC, CHIP 0.01uF 10% 25V

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Ref. No. or Q'ty	Part No.	SP Description
C64	1-162-970-11	s CERAMIC, CHIP 0.01uF 10% 25V
C65	1-162-970-11	s CERAMIC, CHIP 0.01uF 10% 25V
C66	1-162-970-11	s CERAMIC, CHIP 0.01uF 10% 25V
C67	1-162-964-11	s CERAMIC, CHIP 0.001uF 10% 50V
C68	1-162-970-11	s CERAMIC, CHIP 0.01uF 10% 25V
C69	1-162-964-11	s CERAMIC, CHIP 0.001uF 10% 50V
C70	1-162-970-11	s CERAMIC, CHIP 0.01uF 10% 25V
C71	1-162-970-11	s CERAMIC, CHIP 0.01uF 10% 25V
C72	1-162-970-11	s CERAMIC, CHIP 0.01uF 10% 25V
C73	1-162-964-11	s CERAMIC, CHIP 0.001uF 10% 50V
C74	1-162-964-11	s CERAMIC, CHIP 0.001uF 10% 50V
C75	1-162-970-11	s CERAMIC, CHIP 0.01uF 10% 25V
C76	1-162-970-11	s CERAMIC, CHIP 0.01uF 10% 25V
C77	1-162-970-11	s CERAMIC, CHIP 0.01uF 10% 25V
C78	1-162-970-11	s CERAMIC, CHIP 0.01uF 10% 25V
C79	1-162-970-11	s CERAMIC, CHIP 0.01uF 10% 25V
C80	1-162-970-11	s CERAMIC, CHIP 0.01uF 10% 25V
C81	1-162-970-11	s CERAMIC, CHIP 0.01uF 10% 25V
C82	1-162-970-11	s CERAMIC, CHIP 0.01uF 10% 25V
C83	1-164-156-11	s CERAMIC, CHIP 0.1uF 25V
C84	1-164-156-11	s CERAMIC, CHIP 0.1uF 25V
C100	1-162-970-11	s CERAMIC, CHIP 0.01uF 10% 25V
C101	1-162-970-11	s CERAMIC, CHIP 0.01uF 10% 25V
C102	1-162-970-11	s CERAMIC, CHIP 0.01uF 10% 25V
C103	1-162-970-11	s CERAMIC, CHIP 0.01uF 10% 25V
C104	1-162-970-11	s CERAMIC, CHIP 0.01uF 10% 25V
C105	1-162-970-11	s CERAMIC, CHIP 0.01uF 10% 25V
C106	1-162-970-11	s CERAMIC, CHIP 0.01uF 10% 25V
C107	1-162-970-11	s CERAMIC, CHIP 0.01uF 10% 25V
CN11	1-569-629-11	s HOUSING, 24P
CN12	1-770-580-11	o SOCKET, CONNECTOR(PCB-PCB) 26P
CN13	1-764-078-11	s PIN, CONNECTOR (PC BOARD) 3P
CN14	1-764-080-21	s PIN, CONNECTOR (PC BOARD) 8P
CN15	1-774-260-11	o CONNECTOR, FFC (ZIF) 20P
CN16	1-774-261-21	o CONNECTOR, FFC (ZIF) 24P
CN17	1-750-935-21	o PIN, CONNECTOR 30P
CN18	1-750-935-21	o PIN, CONNECTOR 30P
CN19	1-750-933-21	o PIN, CONNECTOR 12P
CN20	1-750-935-21	o PIN, CONNECTOR 30P
CN21	1-750-935-21	o PIN, CONNECTOR 30P
CN22	1-750-934-21	o PIN, CONNECTOR 20P
CN23	1-750-933-21	o PIN, CONNECTOR 12P
CN24	1-750-935-21	o PIN, CONNECTOR 30P
CN25	1-750-934-21	o PIN, CONNECTOR 20P
CN26	1-766-703-11	s CONNECTOR, COAXIAL
CN27	1-766-703-11	s CONNECTOR, COAXIAL
CN28	1-766-703-11	s CONNECTOR, COAXIAL
CN29	1-750-933-21	o PIN, CONNECTOR 12P
CN30	1-750-934-21	o PIN, CONNECTOR 20P
CN31	1-750-935-21	o PIN, CONNECTOR 30P
CN32	1-774-260-11	o CONNECTOR, FFC (ZIF) 20P
CN33	1-764-079-21	s PIN, CONNECTOR (PC BOARD) 4P
D2	8-719-404-35	s DIODE MA141WK
D3	8-719-404-35	s DIODE MA141WK
IC5	8-759-086-42	s IC X24C02S-3.0-C7000
IC6	8-759-175-04	s IC PCF8574T-T
IC7	8-759-175-04	s IC PCF8574T-T
IC8	8-759-175-04	s IC PCF8574T-T

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Ref. No. or Q'ty	Part No.	SP	Description
IC9	8-759-175-04	s	IC PCF8574T-T
IC10	8-759-175-04	s	IC PCF8574T-T
IC11	8-759-175-04	s	IC PCF8574T-T
IC50	8-759-209-69	s	IC TC4S11F
JC1	1-216-295-11	s	CHIP, CONDUCTOR 0
JC2	1-216-295-11	s	CHIP, CONDUCTOR 0
Q1	8-729-029-14	s	TRANSISTOR DTC144EUA-T106
Q2	8-729-029-14	s	TRANSISTOR DTC144EUA-T106
Q3	8-729-120-28	s	TRANSISTOR 2SC1623-L5L6
R1	1-216-830-11	s	METAL, CHIP 5.6K 5% 1/16W
R2	1-216-845-11	s	METAL, CHIP 100K 5% 1/16W
R3	1-216-797-11	s	METAL, CHIP 10 5% 1/16W
R4	1-216-809-11	s	METAL, CHIP 100 5% 1/16W
R5	1-216-821-11	s	METAL, CHIP 1K 5% 1/16W
R6	1-216-797-11	s	METAL, CHIP 10 5% 1/16W
R7	1-216-809-11	s	METAL, CHIP 100 5% 1/16W
R8	1-216-821-11	s	METAL, CHIP 1K 5% 1/16W
R9	1-216-829-11	s	METAL, CHIP 4.7K 5% 1/16W
R10	1-216-845-11	s	METAL, CHIP 100K 5% 1/16W
R14	1-216-797-11	s	METAL, CHIP 10 5% 1/16W
R15	1-216-809-11	s	METAL, CHIP 100 5% 1/16W
R16	1-216-821-11	s	METAL, CHIP 1K 5% 1/16W
R20	1-216-797-11	s	METAL, CHIP 10 5% 1/16W
R21	1-216-809-11	s	METAL, CHIP 100 5% 1/16W
R22	1-216-821-11	s	METAL, CHIP 1K 5% 1/16W
R23	1-216-797-11	s	METAL, CHIP 10 5% 1/16W
R24	1-216-809-11	s	METAL, CHIP 100 5% 1/16W
R25	1-216-821-11	s	METAL, CHIP 1K 5% 1/16W
R26	1-216-809-11	s	METAL, CHIP 100 5% 1/16W
R27	1-216-809-11	s	METAL, CHIP 100 5% 1/16W
R28	1-216-833-11	s	METAL, CHIP 10K 5% 1/16W
R29	1-216-841-11	s	METAL, CHIP 47K 5% 1/16W
R30	1-216-833-11	s	METAL, CHIP 10K 5% 1/16W
R31	1-216-821-11	s	METAL, CHIP 1K 5% 1/16W
R32	1-216-797-11	s	METAL, CHIP 10 5% 1/16W
R33	1-216-809-11	s	METAL, CHIP 100 5% 1/16W
R34	1-216-821-11	s	METAL, CHIP 1K 5% 1/16W
R35	1-216-845-11	s	METAL, CHIP 100K 5% 1/16W
R36	1-216-845-11	s	METAL, CHIP 100K 5% 1/16W
R40	1-216-845-11	s	METAL, CHIP 100K 5% 1/16W
R41	1-216-845-11	s	METAL, CHIP 100K 5% 1/16W
R101	1-216-821-11	s	METAL, CHIP 1K 5% 1/16W
R102	1-216-845-11	s	METAL, CHIP 100K 5% 1/16W
R103	1-216-845-11	s	METAL, CHIP 100K 5% 1/16W
R104	1-216-809-11	s	METAL, CHIP 100 5% 1/16W
R105	1-216-809-11	s	METAL, CHIP 100 5% 1/16W
RB10	1-239-416-11	s	RESISTOR BLOCK, CHIP 220X4
RB11	1-239-416-11	s	RESISTOR BLOCK, CHIP 220X4
RB12	1-236-907-11	s	RESISTOR BLOCK, CHIP 100KX4
RB13	1-236-904-11	s	RESISTOR BLOCK, CHIP 1KX4
RB14	1-236-907-11	s	RESISTOR BLOCK, CHIP 100KX4
RB15	1-236-907-11	s	RESISTOR BLOCK, CHIP 100KX4
RB16	1-236-904-11	s	RESISTOR BLOCK, CHIP 1KX4
RB17	1-236-907-11	s	RESISTOR BLOCK, CHIP 100KX4
RB18	1-236-907-11	s	RESISTOR BLOCK, CHIP 100KX4
RB19	1-236-907-11	s	RESISTOR BLOCK, CHIP 100KX4
RB20	1-236-907-11	s	RESISTOR BLOCK, CHIP 100KX4

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Ref. No. or Q'ty	Part No.	SP	Description
RB21	1-236-907-11	s	RESISTOR BLOCK, CHIP 100KX4
RB22	1-236-907-11	s	RESISTOR BLOCK, CHIP 100KX4

MD-103 BOARD

Ref. No. or Q'ty	Part No.	SP Description
1pc	A-8272-582-A	o MOUNTED CIRCUIT BOARD, MD-103
1pc	3-692-161-02	o PANEL, MD-103 PC BOARD
1pc	3-724-753-01	o RING
6pcs	3-729-061-01	s SCREW (M2X4.5) (TYPE 1)
C1	1-162-906-11	s CHIP, CERAMIC 1.5PF 0.25PF 50V
C2	1-162-905-11	s CERAMIC 1PF 0.25PF 50V
C3	1-162-974-11	s CERAMIC 0.01uF 50V
C4	1-164-156-11	s CERAMIC 0.1uF 25V
C5	1-164-156-11	s CERAMIC 0.1uF 25V
C6	1-104-851-11	s TANTALUM, CHIP 10uF 20% 10V
C7	1-104-851-11	s TANTALUM, CHIP 10uF 20% 10V
C8	1-104-911-11	s TANTALUM, CHIP 33uF 20% 10V
C9	1-104-911-11	s TANTALUM, CHIP 33uF 20% 10V
C10	1-162-920-11	s CERAMIC, CHIP 27PF 5% 50V
C11	1-104-851-11	s TANTALUM, CHIP 10uF 20% 10V
C12	1-164-156-11	s CERAMIC 0.1uF 25V
C13	1-164-156-11	s CERAMIC 0.1uF 25V
C14	1-164-156-11	s CERAMIC 0.1uF 25V
C16	1-164-156-11	s CERAMIC 0.1uF 25V
C17	1-164-156-11	s CERAMIC 0.1uF 25V
C18	1-164-156-11	s CERAMIC 0.1uF 25V
C19	1-164-156-11	s CERAMIC 0.1uF 25V
C20	1-164-156-11	s CERAMIC 0.1uF 25V
C21	1-104-851-11	s TANTALUM, CHIP 10uF 20% 10V
C22	1-164-156-11	s CERAMIC 0.1uF 25V
C23	1-164-156-11	s CERAMIC 0.1uF 25V
C24	1-164-156-11	s CERAMIC 0.1uF 25V
C26	1-164-156-11	s CERAMIC 0.1uF 25V
C27	1-164-156-11	s CERAMIC 0.1uF 25V
C28	1-164-156-11	s CERAMIC 0.1uF 25V
C29	1-164-156-11	s CERAMIC 0.1uF 25V
C30	1-164-156-11	s CERAMIC 0.1uF 25V
C31	1-164-156-11	s CERAMIC 0.1uF 25V
C32	1-164-156-11	s CERAMIC 0.1uF 25V
C33	1-164-156-11	s CERAMIC 0.1uF 25V
C34	1-164-156-11	s CERAMIC 0.1uF 25V
C35	1-104-851-11	s TANTALUM, CHIP 10uF 20% 10V
C36	1-104-851-11	s TANTALUM, CHIP 10uF 20% 10V
C37	1-164-156-11	s CERAMIC 0.1uF 25V
C38	1-164-156-11	s CERAMIC 0.1uF 25V
C39	1-162-927-11	s CERAMIC, CHIP 100PF 5% 50V
C40	1-164-156-11	s CERAMIC 0.1uF 25V
C41	1-164-156-11	s CERAMIC 0.1uF 25V
C42	1-164-156-11	s CERAMIC 0.1uF 25V
C43	1-164-156-11	s CERAMIC 0.1uF 25V
C44	1-162-919-11	s CERAMIC, CHIP 22PF 5% 50V
C45	1-162-905-11	s CERAMIC 1PF 0.25PF 50V
C46	1-162-905-11	s CERAMIC 1PF 0.25PF 50V
C47	1-162-974-11	s CERAMIC 0.01uF 50V
C48	1-164-156-11	s CERAMIC 0.1uF 25V
C49	1-164-156-11	s CERAMIC 0.1uF 25V
C50	1-104-851-11	s TANTALUM, CHIP 10uF 20% 10V
C51	1-104-851-11	s TANTALUM, CHIP 10uF 20% 10V
C52	1-104-911-11	s TANTALUM, CHIP 33uF 20% 10V
C53	1-104-911-11	s TANTALUM, CHIP 33uF 20% 10V
C54	1-162-923-11	s CERAMIC, CHIP 47PF 5% 50V
C55	1-104-847-11	s TANTALUM, CHIP 22uF 20% 4V
C56	1-164-156-11	s CERAMIC 0.1uF 25V
C57	1-164-156-11	s CERAMIC 0.1uF 25V

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Ref. No. or Q'ty	Part No.	SP Description
C58	1-164-156-11	s CERAMIC 0.1uF 25V
C59	1-162-917-11	s CERAMIC, CHIP 15PF 5% 50V
C60	1-164-156-11	s CERAMIC 0.1uF 25V
C61	1-164-156-11	s CERAMIC 0.1uF 25V
C62	1-164-156-11	s CERAMIC 0.1uF 25V
C63	1-164-156-11	s CERAMIC 0.1uF 25V
C64	1-164-156-11	s CERAMIC 0.1uF 25V
C65	1-164-156-11	s CERAMIC 0.1uF 25V
C66	1-164-156-11	s CERAMIC 0.1uF 25V
C67	1-164-156-11	s CERAMIC 0.1uF 25V
C68	1-164-156-11	s CERAMIC 0.1uF 25V
C70	1-164-156-11	s CERAMIC 0.1uF 25V
C71	1-104-911-11	s TANTALUM, CHIP 33uF 20% 10V
C72	1-104-911-11	s TANTALUM, CHIP 33uF 20% 10V
C73	1-164-156-11	s CERAMIC 0.1uF 25V
C74	1-164-156-11	s CERAMIC 0.1uF 25V
C75	1-162-927-11	s CERAMIC, CHIP 100PF 5% 50V
C76	1-164-156-11	s CERAMIC 0.1uF 25V
C77	1-164-156-11	s CERAMIC 0.1uF 25V
C78	1-164-156-11	s CERAMIC 0.1uF 25V
C79	1-164-156-11	s CERAMIC 0.1uF 25V
C80	1-162-905-11	s CERAMIC 1PF 0.25PF 50V
C81	1-162-905-11	s CERAMIC 1PF 0.25PF 50V
C82	1-162-974-11	s CERAMIC 0.01uF 50V
C83	1-164-156-11	s CERAMIC 0.1uF 25V
C84	1-164-156-11	s CERAMIC 0.1uF 25V
C85	1-104-851-11	s TANTALUM, CHIP 10uF 20% 10V
C86	1-104-851-11	s TANTALUM, CHIP 10uF 20% 10V
C87	1-104-911-11	s TANTALUM, CHIP 33uF 20% 10V
C88	1-104-911-11	s TANTALUM, CHIP 33uF 20% 10V
C89	1-162-923-11	s CERAMIC, CHIP 47PF 5% 50V
C90	1-104-847-11	s TANTALUM, CHIP 22uF 20% 4V
C91	1-164-156-11	s CERAMIC 0.1uF 25V
C92	1-164-156-11	s CERAMIC 0.1uF 25V
C93	1-164-156-11	s CERAMIC 0.1uF 25V
C94	1-162-917-11	s CERAMIC, CHIP 15PF 5% 50V
C95	1-164-156-11	s CERAMIC 0.1uF 25V
C96	1-164-156-11	s CERAMIC 0.1uF 25V
C97	1-164-156-11	s CERAMIC 0.1uF 25V
C98	1-164-156-11	s CERAMIC 0.1uF 25V
C99	1-164-156-11	s CERAMIC 0.1uF 25V
C100	1-164-156-11	s CERAMIC 0.1uF 25V
C101	1-162-905-11	s CERAMIC 1PF 0.25PF 50V
C102	1-162-974-11	s CERAMIC 0.01uF 50V
C103	1-162-907-11	s CERAMIC, CHIP 2PF 50V
C104	1-164-156-11	s CERAMIC 0.1uF 25V
C105	1-164-156-11	s CERAMIC 0.1uF 25V
C106	1-164-156-11	s CERAMIC 0.1uF 25V
C107	1-164-156-11	s CERAMIC 0.1uF 25V
C108	1-164-156-11	s CERAMIC 0.1uF 25V
C118	1-104-851-11	s TANTALUM, CHIP 10uF 20% 10V
C119	1-104-851-11	s TANTALUM, CHIP 10uF 20% 10V
C120	1-164-156-11	s CERAMIC 0.1uF 25V
C121	1-164-156-11	s CERAMIC 0.1uF 25V
C122	1-164-156-11	s CERAMIC 0.1uF 25V
C123	1-164-156-11	s CERAMIC 0.1uF 25V
C124	1-164-156-11	s CERAMIC 0.1uF 25V
C125	1-164-156-11	s CERAMIC 0.1uF 25V
C126	1-164-156-11	s CERAMIC 0.1uF 25V

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Ref. No. or Q'ty	Part No.	SP	Description
C127	1-164-156-11	s	CERAMIC 0.1uF 25V
C128	1-164-156-11	s	CERAMIC 0.1uF 25V
C129	1-164-156-11	s	CERAMIC 0.1uF 25V
C130	1-164-156-11	s	CERAMIC 0.1uF 25V
C132	1-164-156-11	s	CERAMIC 0.1uF 25V
C133	1-164-156-11	s	CERAMIC 0.1uF 25V
C134	1-164-156-11	s	CERAMIC 0.1uF 25V
C135	1-164-156-11	s	CERAMIC 0.1uF 25V
C136	1-164-156-11	s	CERAMIC 0.1uF 25V
C139	1-162-974-11	s	CERAMIC 0.01uF 50V
C151	1-104-851-11	s	TANTALUM, CHIP 10uF 20% 10V
C152	1-104-850-11	s	CHIP, TANTALUM 6.8uF 10% 10V
C153	1-104-850-11	s	CHIP, TANTALUM 6.8uF 10% 10V
C160	1-104-851-11	s	TANTALUM, CHIP 10uF 20% 10V
C161	1-162-927-11	s	CERAMIC, CHIP 100PF 5% 50V
C162	1-104-850-11	s	CHIP, TANTALUM 6.8uF 10% 10V
C163	1-104-851-11	s	TANTALUM, CHIP 10uF 20% 10V
C164	1-162-905-11	s	CERAMIC 1PF 0.25PF 50V
C165	1-104-852-11	s	TANTALUM, CHIP 22uF 20% 10V
C167	1-162-927-11	s	CERAMIC, CHIP 100PF 5% 50V
C168	1-162-923-11	s	CERAMIC, CHIP 47PF 5% 50V
C169	1-104-913-11	s	TANTALUM, CHIP 10uF 20% 16V
C170	1-164-156-11	s	CERAMIC 0.1uF 25V
C171	1-135-179-21	s	TANTAL 2.2uF 10% 16V
C173	1-104-913-11	s	TANTALUM, CHIP 10uF 20% 16V
C174	1-135-179-21	s	TANTAL 2.2uF 10% 16V
C175	1-104-851-11	s	TANTALUM, CHIP 10uF 20% 10V
C176	1-164-156-11	s	CERAMIC 0.1uF 25V
C178	1-135-179-21	s	TANTAL 2.2uF 10% 16V
C179	1-104-851-11	s	TANTALUM, CHIP 10uF 20% 10V
C180	1-164-156-11	s	CERAMIC 0.1uF 25V
C181	1-164-156-11	s	CERAMIC 0.1uF 25V
C182	1-164-156-11	s	CERAMIC 0.1uF 25V
C183	1-104-850-11	s	CHIP, TANTALUM 6.8uF 10% 10V
C184	1-104-850-11	s	CHIP, TANTALUM 6.8uF 10% 10V
C185	1-164-156-11	s	CERAMIC 0.1uF 25V
C186	1-164-156-11	s	CERAMIC 0.1uF 25V
C187	1-104-850-11	s	CHIP, TANTALUM 6.8uF 10% 10V
C188	1-104-850-11	s	CHIP, TANTALUM 6.8uF 10% 10V
C189	1-162-915-11	s	CERAMIC, CHIP 10PF 5PF 50V
C190	1-104-852-11	s	TANTALUM, CHIP 22uF 20% 10V
C191	1-104-852-11	s	TANTALUM, CHIP 22uF 20% 10V
C192	1-104-852-11	s	TANTALUM, CHIP 22uF 20% 10V
C193	1-104-851-11	s	TANTALUM, CHIP 10uF 20% 10V
C200	1-104-847-11	s	TANTALUM, CHIP 22uF 20% 4V
C201	1-104-847-11	s	TANTALUM, CHIP 22uF 20% 4V
C210	1-162-974-11	s	CERAMIC 0.01uF 50V
C211	1-162-974-11	s	CERAMIC 0.01uF 50V
D1	8-759-274-67	s	IC LM4040BIM3X-5.0
D3	8-719-041-68	s	DIODE RD3.3UH-T1
D4	8-719-041-68	s	DIODE RD3.3UH-T1
FL1	1-239-950-11	s	FILTER, LOW-PASS (VIDEO)
FL2	1-409-821-11	s	PHASE SHIFTER 90
FL3	1-760-442-21	s	FILTER, TRAP
FL4	1-239-951-11	s	FILTER, LOW-PASS (VIDEO)
FL5	1-409-822-11	s	PHASE SHIFTER 90
FL6	1-239-951-11	s	FILTER, LOW-PASS (VIDEO)
FL7	1-239-946-11	s	FILTER, LOW-PASS
FL8	1-239-944-11	s	FILTER, LOW-PASS
FL9	1-411-283-11	s	FILTER, TRAP

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Ref. No. or Q'ty	Part No.	SP	Description
IC1	8-759-141-60	s	IC UPA101G
IC2	8-759-141-60	s	IC UPA101G
IC3	8-759-054-61	s	IC CLC505AJE
IC4	8-759-141-60	s	IC UPA101G
IC5	8-759-054-61	s	IC CLC505AJE
IC6	8-759-141-60	s	IC UPA101G
IC12	8-759-186-39	s	IC TC74VHC74F
IC13	8-759-082-61	s	IC TC4W53FU
IC14	8-759-173-16	s	IC TL062CPW
IC16	8-759-085-67	s	IC LM339NS
IC17	8-759-180-08	s	IC TC74HC4538AFS
IC18	8-759-260-55	s	IC TLC272CPW-E05
IC19	8-759-082-61	s	IC TC4W53FU
IC20	8-759-082-61	s	IC TC4W53FU
IC21	8-759-173-16	s	IC TL062CPW
L3	1-412-029-11	s	INDUCTOR CHIP 10uH
L4	1-412-029-11	s	INDUCTOR CHIP 10uH
L5	1-412-026-11	s	INDUCTOR CHIP 1uH
L6	1-412-026-11	s	INDUCTOR CHIP 1uH
L9	1-412-029-11	s	INDUCTOR CHIP 10uH
L10	1-412-029-11	s	INDUCTOR CHIP 10uH
L11	1-412-026-11	s	INDUCTOR CHIP 1uH
L12	1-412-026-11	s	INDUCTOR CHIP 1uH
L15	1-412-029-11	s	INDUCTOR CHIP 10uH
L16	1-412-029-11	s	INDUCTOR CHIP 10uH
L20	1-412-026-11	s	INDUCTOR CHIP 1uH
L21	1-412-026-11	s	INDUCTOR CHIP 1uH
L22	1-412-026-11	s	INDUCTOR CHIP 1uH
L23	1-412-026-11	s	INDUCTOR CHIP 1uH
Q3	8-729-026-31	s	TRANSISTOR XP6435
Q4	8-729-144-07	s	TRANSISTOR 2SC4184-T43
Q5	8-729-024-56	s	TRANSISTOR 2SA1808
Q6	8-729-144-07	s	TRANSISTOR 2SC4184-T43
Q7	8-729-144-07	s	TRANSISTOR 2SC4184-T43
Q8	8-729-024-56	s	TRANSISTOR 2SA1808
Q9	8-729-230-38	s	TRANSISTOR 2SC4215Y
Q10	8-729-230-38	s	TRANSISTOR 2SC4215Y
Q11	8-729-230-38	s	TRANSISTOR 2SC4215Y
Q12	8-729-230-38	s	TRANSISTOR 2SC4215Y
Q13	8-729-230-38	s	TRANSISTOR 2SC4215Y
Q14	8-729-230-38	s	TRANSISTOR 2SC4215Y
Q15	8-729-117-32	s	TRANSISTOR 2SC4177
Q18	8-729-026-31	s	TRANSISTOR XP6435
Q19	8-729-144-07	s	TRANSISTOR 2SC4184-T43
Q20	8-729-024-56	s	TRANSISTOR 2SA1808
Q21	8-729-144-07	s	TRANSISTOR 2SC4184-T43
Q22	8-729-144-07	s	TRANSISTOR 2SC4184-T43
Q23	8-729-024-56	s	TRANSISTOR 2SA1808
Q24	8-729-230-38	s	TRANSISTOR 2SC4215Y
Q25	8-729-230-38	s	TRANSISTOR 2SC4215Y
Q26	8-729-230-38	s	TRANSISTOR 2SC4215Y
Q27	8-729-230-38	s	TRANSISTOR 2SC4215Y
Q28	8-729-230-38	s	TRANSISTOR 2SC4215Y
Q29	8-729-117-32	s	TRANSISTOR 2SC4177
Q32	8-729-026-31	s	TRANSISTOR XP6435
Q33	8-729-144-07	s	TRANSISTOR 2SC4184-T43
Q34	8-729-024-56	s	TRANSISTOR 2SA1808
Q35	8-729-144-07	s	TRANSISTOR 2SC4184-T43

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Ref. No. or Q'ty	Part No.	SP	Description
Q36	8-729-144-07	s	TRANSISTOR 2SC4184-T43
Q37	8-729-024-56	s	TRANSISTOR 2SA1808
Q38	8-729-230-38	s	TRANSISTOR 2SC4215Y
Q39	8-729-230-38	s	TRANSISTOR 2SC4215Y
Q40	8-729-230-38	s	TRANSISTOR 2SC4215Y
Q43	8-729-230-38	s	TRANSISTOR 2SC4215Y
Q44	8-729-024-58	s	TRANSISTOR 2SA1688-5
Q45	8-729-230-38	s	TRANSISTOR 2SC4215Y
Q46	8-729-024-58	s	TRANSISTOR 2SA1688-5
Q47	8-729-928-81	s	TRANSISTOR DTC144EE
Q50	8-729-026-31	s	TRANSISTOR XP6435
Q51	8-729-024-56	s	TRANSISTOR 2SA1808
Q52	8-729-144-07	s	TRANSISTOR 2SC4184-T43
Q53	8-729-144-07	s	TRANSISTOR 2SC4184-T43
Q54	8-729-144-07	s	TRANSISTOR 2SC4184-T43
Q55	8-729-024-56	s	TRANSISTOR 2SA1808
Q60	8-729-117-16	s	TRANSISTOR 2SA1611-M6
Q61	8-729-117-32	s	TRANSISTOR 2SC4177
Q62	8-729-117-16	s	TRANSISTOR 2SA1611-M6
Q63	8-729-117-32	s	TRANSISTOR 2SC4177
Q64	8-729-928-81	s	TRANSISTOR DTC144EE
Q65	8-729-101-07	s	TRANSISTOR 2SB798
Q66	8-729-928-81	s	TRANSISTOR DTC144EE
Q67	8-729-141-48	s	TRANSISTOR 2SB624-BV345
Q68	8-729-928-81	s	TRANSISTOR DTC144EE
Q69	8-729-928-27	s	TRANSISTOR DTA144EE
Q70	8-729-807-51	s	TRANSISTOR 2SD1623-S
R5	1-218-851-11	s	CHIP, METAL 1.5K 0.50% 1/16W
R6	1-218-708-11	s	METAL 4.7K 0.50% 1/16W
R7	1-216-831-11	s	METAL, CHIP 6.8K 5% 1/16W
R8	1-216-823-11	s	METAL, CHIP 1.5K 5% 1/16W
R9	1-218-692-11	s	CHIP, METAL 1K 0.50% 1/16W
R10	1-218-692-11	s	CHIP, METAL 1K 0.50% 1/16W
R11	1-216-829-11	s	METAL, CHIP 4.7K 5% 1/16W
R12	1-216-789-11	s	METAL, CHIP 2.2 5% 1/16W
R13	1-216-789-11	s	METAL, CHIP 2.2 5% 1/16W
R14	1-211-990-11	s	CHIP, METAL 75 0.50% 1/16W
R15	1-218-684-11	s	CHIP, METAL 470 0.50% 1/16W
R16	1-218-704-11	s	METAL 3.3K 0.50% 1/16W
R18	1-218-684-11	s	CHIP, METAL 470 0.50% 1/16W
R20	1-218-868-11	s	CHIP, METAL 7.5K 0.50% 1/16W
R21	1-218-833-11	s	CHIP, METAL 270 0.50% 1/16W
R22	1-218-679-91	s	CHIP, METAL 300 0.50% 1/16W
R23	1-216-809-11	s	METAL, CHIP 100 5% 1/16W
R24	1-216-809-11	s	METAL, CHIP 100 5% 1/16W
R25	1-216-823-11	s	METAL, CHIP 1.5K 5% 1/16W
R26	1-216-823-11	s	METAL, CHIP 1.5K 5% 1/16W
R27	1-216-823-11	s	METAL, CHIP 1.5K 5% 1/16W
R28	1-218-842-11	s	CHIP, METAL 620 0.50% 1/16W
R29	1-218-851-11	s	CHIP, METAL 1.5K 0.50% 1/16W
R30	1-216-823-11	s	METAL, CHIP 1.5K 5% 1/16W
R31	1-218-851-11	s	CHIP, METAL 1.5K 0.50% 1/16W
R32	1-218-684-11	s	CHIP, METAL 470 0.50% 1/16W
R33	1-218-684-11	s	CHIP, METAL 470 0.50% 1/16W
R34	1-218-684-11	s	CHIP, METAL 470 0.50% 1/16W
R35	1-216-839-11	s	METAL, CHIP 33K 5% 1/16W
R36	1-216-821-11	s	METAL, CHIP 1K 5% 1/16W
R37	1-216-821-11	s	METAL, CHIP 1K 5% 1/16W

(MD-103 BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
R38	1-216-838-11	s	METAL, CHIP 27K 5% 1/16W
R39	1-218-716-11	s	METAL 10K 0.50% 1/16W
R40	1-218-684-11	s	CHIP, METAL 470 0.50% 1/16W
R41	1-216-864-11	s	METAL, CHIP 0 5% 1/16W
R42	1-218-714-11	s	METAL 8.2K 0.50% 1/16W
R43	1-218-675-11	s	CHIP, METAL 200 0.50% 1/16W
R44	1-218-679-91	s	CHIP, METAL 300 0.50% 1/16W
R45	1-216-809-11	s	METAL, CHIP 100 5% 1/16W
R46	1-216-809-11	s	METAL, CHIP 100 5% 1/16W
R47	1-216-823-11	s	METAL, CHIP 1.5K 5% 1/16W
R48	1-216-823-11	s	METAL, CHIP 1.5K 5% 1/16W
R49	1-216-823-11	s	METAL, CHIP 1.5K 5% 1/16W
R50	1-218-842-11	s	CHIP, METAL 620 0.50% 1/16W
R51	1-218-851-11	s	CHIP, METAL 1.5K 0.50% 1/16W
R52	1-216-823-11	s	METAL, CHIP 1.5K 5% 1/16W
R53	1-218-851-11	s	CHIP, METAL 1.5K 0.50% 1/16W
R54	1-218-684-11	s	CHIP, METAL 470 0.50% 1/16W
R55	1-218-684-11	s	CHIP, METAL 470 0.50% 1/16W
R56	1-216-839-11	s	METAL, CHIP 33K 5% 1/16W
R57	1-216-821-11	s	METAL, CHIP 1K 5% 1/16W
R58	1-216-821-11	s	METAL, CHIP 1K 5% 1/16W
R59	1-216-838-11	s	METAL, CHIP 27K 5% 1/16W
R60	1-218-684-11	s	CHIP, METAL 470 0.50% 1/16W
R61	1-216-838-11	s	METAL, CHIP 27K 5% 1/16W
R62	1-216-830-11	s	METAL, CHIP 5.6K 5% 1/16W
R63	1-216-846-11	s	METAL, CHIP 120K 5% 1/16W
R64	1-218-700-11	s	METAL 2.2K 0.50% 1/16W
R65	1-216-809-11	s	METAL, CHIP 100 5% 1/16W
R66	1-211-990-11	s	CHIP, METAL 75 0.50% 1/16W
R67	1-216-816-11	s	METAL, CHIP 390 5% 1/16W
R68	1-216-844-11	s	METAL, CHIP 82K 5% 1/16W
R69	1-216-839-11	s	METAL, CHIP 33K 5% 1/16W
R70	1-216-857-11	s	METAL, CHIP 1M 5% 1/16W
R71	1-218-840-11	s	CHIP, METAL 510 0.50% 1/16W
R75	1-218-866-11	s	CHIP, METAL 6.2K 0.50% 1/16W
R76	1-218-716-11	s	METAL 10K 0.50% 1/16W
R77	1-216-831-11	s	METAL, CHIP 6.8K 5% 1/16W
R78	1-216-823-11	s	METAL, CHIP 1.5K 5% 1/16W
R81	1-216-829-11	s	METAL, CHIP 4.7K 5% 1/16W
R82	1-216-789-11	s	METAL, CHIP 2.2 5% 1/16W
R83	1-216-789-11	s	METAL, CHIP 2.2 5% 1/16W
R84	1-211-990-11	s	CHIP, METAL 75 0.50% 1/16W
R85	1-218-648-11	s	METAL 15 0.50% 1/16W
R86	1-218-702-11	s	CHIP, METAL 2.7K 0.50% 1/16W
R88	1-218-684-11	s	CHIP, METAL 470 0.50% 1/16W
R89	1-218-864-11	s	CHIP, METAL 5.1K 0.50% 1/16W
R90	1-218-679-91	s	CHIP, METAL 300 0.50% 1/16W
R91	1-218-858-11	s	CHIP, METAL 3K 0.50% 1/16W
R92	1-216-809-11	s	METAL, CHIP 100 5% 1/16W
R93	1-216-809-11	s	METAL, CHIP 100 5% 1/16W
R94	1-216-822-11	s	METAL, CHIP 1.2K 5% 1/16W
R95	1-216-822-11	s	METAL, CHIP 1.2K 5% 1/16W
R96	1-218-695-11	s	METAL 1.3K 0.50% 1/16W
R97	1-218-836-11	s	CHIP, METAL 360 0.50% 1/16W
R98	1-218-694-11	s	CHIP, METAL 1.2K 0.50% 1/16W
R99	1-218-695-11	s	METAL 1.3K 0.50% 1/16W
R100	1-218-694-11	s	CHIP, METAL 1.2K 0.50% 1/16W
R101	1-218-684-11	s	CHIP, METAL 470 0.50% 1/16W
R102	1-218-684-11	s	CHIP, METAL 470 0.50% 1/16W

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Ref. No. or Q'ty	Part No.	SP	Description
R103	1-216-839-11	s	METAL, CHIP 33K 5% 1/16W
R104	1-216-821-11	s	METAL, CHIP 1K 5% 1/16W
R105	1-216-821-11	s	METAL, CHIP 1K 5% 1/16W
R106	1-216-838-11	s	METAL, CHIP 27K 5% 1/16W
R107	1-218-684-11	s	CHIP, METAL 470 0.50% 1/16W
R108	1-218-700-11	s	METAL 2.2K 0.50% 1/16W
R109	1-218-710-11	s	CHIP, METAL 5.6K 0.50% 1/16W
R110	1-216-821-11	s	METAL, CHIP 1K 5% 1/16W
R111	1-216-822-11	s	METAL, CHIP 1.2K 5% 1/16W
R112	1-218-836-11	s	CHIP, METAL 360 0.50% 1/16W
R113	1-216-838-11	s	METAL, CHIP 27K 5% 1/16W
R114	1-216-830-11	s	METAL, CHIP 5.6K 5% 1/16W
R115	1-216-841-11	s	METAL, CHIP 47K 5% 1/16W
R116	1-218-694-11	s	CHIP, METAL 1.2K 0.50% 1/16W
R117	1-216-809-11	s	METAL, CHIP 100 5% 1/16W
R118	1-211-990-11	s	CHIP, METAL 75 0.50% 1/16W
R119	1-216-816-11	s	METAL, CHIP 390 5% 1/16W
R120	1-216-844-11	s	METAL, CHIP 82K 5% 1/16W
R121	1-216-839-11	s	METAL, CHIP 33K 5% 1/16W
R122	1-216-857-11	s	METAL, CHIP 1M 5% 1/16W
R123	1-218-840-11	s	CHIP, METAL 510 0.50% 1/16W
R127	1-218-866-11	s	CHIP, METAL 6.2K 0.50% 1/16W
R128	1-218-716-11	s	METAL 10K 0.50% 1/16W
R129	1-216-831-11	s	METAL, CHIP 6.8K 5% 1/16W
R130	1-216-823-11	s	METAL, CHIP 1.5K 5% 1/16W
R133	1-216-829-11	s	METAL, CHIP 4.7K 5% 1/16W
R134	1-216-789-11	s	METAL, CHIP 2.2 5% 1/16W
R135	1-216-789-11	s	METAL, CHIP 2.2 5% 1/16W
R136	1-211-990-11	s	CHIP, METAL 75 0.50% 1/16W
R137	1-218-648-11	s	METAL 15 0.50% 1/16W
R138	1-218-702-11	s	CHIP, METAL 2.7K 0.50% 1/16W
R140	1-218-684-11	s	CHIP, METAL 470 0.50% 1/16W
R141	1-218-864-11	s	CHIP, METAL 5.1K 0.50% 1/16W
R142	1-218-679-91	s	CHIP, METAL 300 0.50% 1/16W
R143	1-218-858-11	s	CHIP, METAL 3K 0.50% 1/16W
R144	1-216-809-11	s	METAL, CHIP 100 5% 1/16W
R145	1-216-809-11	s	METAL, CHIP 100 5% 1/16W
R146	1-216-822-11	s	METAL, CHIP 1.2K 5% 1/16W
R147	1-216-822-11	s	METAL, CHIP 1.2K 5% 1/16W
R148	1-218-695-11	s	METAL 1.3K 0.50% 1/16W
R149	1-218-836-11	s	CHIP, METAL 360 0.50% 1/16W
R150	1-218-694-11	s	CHIP, METAL 1.2K 0.50% 1/16W
R151	1-218-695-11	s	METAL 1.3K 0.50% 1/16W
R152	1-218-694-11	s	CHIP, METAL 1.2K 0.50% 1/16W
R153	1-218-684-11	s	CHIP, METAL 470 0.50% 1/16W
R154	1-218-684-11	s	CHIP, METAL 470 0.50% 1/16W
R155	1-218-684-11	s	CHIP, METAL 470 0.50% 1/16W
R156	1-216-839-11	s	METAL, CHIP 33K 5% 1/16W
R157	1-216-821-11	s	METAL, CHIP 1K 5% 1/16W
R158	1-216-821-11	s	METAL, CHIP 1K 5% 1/16W
R159	1-216-838-11	s	METAL, CHIP 27K 5% 1/16W
R160	1-216-831-11	s	METAL, CHIP 6.8K 5% 1/16W
R161	1-218-732-11	s	METAL 47K 0.50% 1/16W
R162	1-218-704-11	s	METAL 3.3K 0.50% 1/16W
R163	1-218-676-11	s	METAL 220 0.50% 1/16W
R164	1-218-692-11	s	CHIP, METAL 1K 0.50% 1/16W
R165	1-218-692-11	s	CHIP, METAL 1K 0.50% 1/16W
R166	1-216-823-11	s	METAL, CHIP 1.5K 5% 1/16W
R167	1-216-829-11	s	METAL, CHIP 4.7K 5% 1/16W

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Ref. No. or Q'ty	Part No.	SP	Description
R168	1-218-704-11	s	METAL 3.3K 0.50% 1/16W
R169	1-216-801-11	s	METAL, CHIP 22 5% 1/16W
R170	1-216-801-11	s	METAL, CHIP 22 5% 1/16W
R171	1-216-821-11	s	METAL, CHIP 1K 5% 1/16W
R172	1-216-845-11	s	METAL, CHIP 100K 5% 1/16W
R190	1-218-710-11	s	CHIP, METAL 5.6K 0.50% 1/16W
R191	1-218-710-11	s	CHIP, METAL 5.6K 0.50% 1/16W
R192	1-218-668-11	s	CHIP, METAL 100 0.50% 1/16W
R198	1-216-824-11	s	METAL, CHIP 1.8K 5% 1/16W
R199	1-216-809-11	s	METAL, CHIP 100 5% 1/16W
R200	1-218-684-11	s	CHIP, METAL 470 0.50% 1/16W
R201	1-218-679-91	s	CHIP, METAL 300 0.50% 1/16W
R202	1-218-829-11	s	CHIP, METAL 180 0.50% 1/16W
R203	1-216-825-11	s	METAL, CHIP 2.2K 5% 1/16W
R204	1-216-829-11	s	METAL, CHIP 4.7K 5% 1/16W
R205	1-216-829-11	s	METAL, CHIP 4.7K 5% 1/16W
R206	1-216-833-11	s	METAL, CHIP 10K 5% 1/16W
R207	1-218-699-11	s	CHIP, METAL 2K 0.50% 1/16W
R208	1-216-828-11	s	METAL, CHIP 3.9K 5% 1/16W
R209	1-218-684-11	s	CHIP, METAL 470 0.50% 1/16W
R210	1-218-684-11	s	CHIP, METAL 470 0.50% 1/16W
R211	1-216-825-11	s	METAL, CHIP 2.2K 5% 1/16W
R225	1-211-990-11	s	CHIP, METAL 75 0.50% 1/16W
R227	1-216-821-11	s	METAL, CHIP 1K 5% 1/16W
R228	1-216-821-11	s	METAL, CHIP 1K 5% 1/16W
R240	1-218-724-11	s	CHIP, METAL 22K 5% 1/16W
R241	1-218-714-11	s	METAL 8.2K 0.50% 1/16W
R242	1-218-722-11	s	CHIP, METAL 18K 0.50% 1/16W
R243	1-218-725-11	s	METAL 24K 0.50% 1/16W
R244	1-218-864-11	s	CHIP, METAL 5.1K 0.50% 1/16W
R245	1-218-721-11	s	METAL 16K 0.50% 1/16W
R246	1-216-833-11	s	METAL, CHIP 10K 5% 1/16W
R247	1-216-845-11	s	METAL, CHIP 100K 5% 1/16W
R250	1-218-870-11	s	CHIP, METAL 9.1K 0.50% 1/16W
R251	1-216-809-11	s	METAL, CHIP 100 5% 1/16W
R252	1-216-837-11	s	METAL, CHIP 22K 5% 1/16W
R253	1-216-841-11	s	METAL, CHIP 47K 5% 1/16W
R254	1-216-837-11	s	METAL, CHIP 22K 5% 1/16W
R255	1-216-825-11	s	METAL, CHIP 2.2K 5% 1/16W
R256	1-216-825-11	s	METAL, CHIP 2.2K 5% 1/16W
R257	1-216-821-11	s	METAL, CHIP 1K 5% 1/16W
R258	1-216-836-11	s	METAL, CHIP 18K 5% 1/16W
R259	1-216-841-11	s	METAL, CHIP 47K 5% 1/16W
R260	1-216-833-11	s	METAL, CHIP 10K 5% 1/16W
R261	1-216-833-11	s	METAL, CHIP 10K 5% 1/16W
R262	1-216-837-11	s	METAL, CHIP 22K 5% 1/16W
R263	1-216-809-11	s	METAL, CHIP 100 5% 1/16W
R264	1-218-873-11	s	CHIP, METAL 12K 0.50% 1/16W
R265	1-218-727-11	s	METAL 30K 0.50% 1/16W
R266	1-218-710-11	s	CHIP, METAL 5.6K 0.50% 1/16W
R267	1-218-694-11	s	CHIP, METAL 1.2K 0.50% 1/16W
R268	1-218-724-11	s	CHIP, METAL 22K 5% 1/16W
R269	1-218-724-11	s	CHIP, METAL 22K 5% 1/16W
R270	1-218-725-11	s	METAL 24K 0.50% 1/16W
R271	1-216-833-11	s	METAL, CHIP 10K 5% 1/16W
R272	1-216-837-11	s	METAL, CHIP 22K 5% 1/16W
R273	1-218-720-11	s	METAL 15K 0.50% 1/16W
R274	1-218-838-11	s	CHIP, METAL 430 0.50% 1/16W
R275	1-218-710-11	s	CHIP, METAL 5.6K 0.50% 1/16W

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Ref. No. or Q'ty	Part No.	SP Description
R276	1-218-694-11	s CHIP, METAL 1.2K 0.50% 1/16W
R277	1-216-821-11	s METAL, CHIP 1K 5% 1/16W
R278	1-216-845-11	s METAL, CHIP 100K 5% 1/16W
R279	1-218-840-11	s CHIP, METAL 510 0.50% 1/16W
R280	1-218-675-11	s CHIP, METAL 200 0.50% 1/16W
R281	1-218-840-11	s CHIP, METAL 510 0.50% 1/16W
R282	1-216-821-11	s METAL, CHIP 1K 5% 1/16W
R283	1-216-845-11	s METAL, CHIP 100K 5% 1/16W
R284	1-218-840-11	s CHIP, METAL 510 0.50% 1/16W
R285	1-218-675-11	s CHIP, METAL 200 0.50% 1/16W
R286	1-218-840-11	s CHIP, METAL 510 0.50% 1/16W
R287	1-216-809-11	s METAL, CHIP 100 5% 1/16W
R288	1-216-789-11	s METAL, CHIP 2.2 5% 1/16W
R289	1-216-789-11	s METAL, CHIP 2.2 5% 1/16W
R290	1-216-789-11	s METAL, CHIP 2.2 5% 1/16W
R291	1-216-789-11	s METAL, CHIP 2.2 5% 1/16W
R292	1-216-789-11	s METAL, CHIP 2.2 5% 1/16W
R293	1-218-840-11	s CHIP, METAL 510 0.50% 1/16W
R294	1-218-840-11	s CHIP, METAL 510 0.50% 1/16W
R300	1-216-833-11	s METAL, CHIP 10K 5% 1/16W
R301	1-216-841-11	s METAL, CHIP 47K 5% 1/16W
R302	1-218-684-11	s CHIP, METAL 470 0.50% 1/16W
R303	1-218-684-11	s CHIP, METAL 470 0.50% 1/16W
RV1	1-237-031-11	s RES, ADJ METAL 200
RV2	1-237-036-11	s RES, ADJ METAL 10K
RV3	1-237-036-11	s RES, ADJ METAL 10K
RV4	1-237-036-11	s RES, ADJ METAL 10K
RV5	1-237-033-11	s RES, ADJ METAL 1K
RV7	1-237-030-11	s RES, ADJ METAL 100
RV8	1-237-036-11	s RES, ADJ METAL 10K
RV9	1-237-033-11	s RES, ADJ METAL 1K
RV11	1-237-030-11	s RES, ADJ METAL 100
RV12	1-237-036-11	s RES, ADJ METAL 10K
RV13	1-237-035-11	s RES, ADJ METAL 5K
S3	1-692-531-11	s SWITCH, TOGGLE
X1	1-760-438-11	s CRYSTAL 45.00MHz

PR-211 BOARD

Ref. No. or Q'ty	Part No.	SP Description
1pc	A-8272-557-A	o MOUNTED CIRCUIT BOARD, PR-211

PS-392 BOARD

Ref. No. or Q'ty	Part No.	SP Description
1pc	A-8272-805-A	o MOUNTED CIRCUIT BOARD, PS-392
C1	1-136-189-00	s FILM 0.1uF 5% 250V
C2	1-104-913-11	s TANTALUM, CHIP 10uF 20% 16V
C3	1-135-138-11	s TANTALUM, CHIP 10uF 20% 25V
C4	1-135-138-11	s TANTALUM, CHIP 10uF 20% 25V
C5	1-163-038-00	s CHIP, CERAMIC 0.1uF 25V
C6	1-128-078-11	s ELECT 33uF 20% 10V
C7	1-163-038-00	s CHIP, CERAMIC 0.1uF 25V
C8	1-128-078-11	s ELECT 33uF 20% 10V
C9	1-163-038-00	s CHIP, CERAMIC 0.1uF 25V
C10	1-128-078-11	s ELECT 33uF 20% 10V
C51	1-163-038-00	s CHIP, CERAMIC 0.1uF 25V
C52	1-128-078-11	s ELECT 33uF 20% 10V
C61	1-163-038-00	s CHIP, CERAMIC 0.1uF 25V
C62	1-128-078-11	s ELECT 33uF 20% 10V
C71	1-163-038-00	s CHIP, CERAMIC 0.1uF 25V
C72	1-128-078-11	s ELECT 33uF 20% 10V
CN1	1-564-216-00	o CONNECTOR 5P, MALE
CN2	1-564-216-00	o CONNECTOR 5P, MALE
CN3	1-564-215-11	o PIN, CONNECTOR 4P
CN4	1-566-693-11	o PIN, CONNECTOR 2P
CN5	1-566-693-11	o PIN, CONNECTOR 2P
CN6	1-566-693-11	o PIN, CONNECTOR 2P
CN7	1-566-693-11	o PIN, CONNECTOR 2P
CN8	1-566-693-11	o PIN, CONNECTOR 2P
CN11	1-564-104-00	o PIN, CONNECTOR (B3P-VH) 3P
CN12	1-580-544-11	s PIN, CONNECTOR 30P
CN21	1-564-104-00	o PIN, CONNECTOR (B3P-VH) 3P
CN22	1-580-544-11	s PIN, CONNECTOR 30P
CN24	1-580-570-11	o PIN, CONNECTOR (PC BOARD) 30P
CN31	1-580-570-11	o PIN, CONNECTOR (PC BOARD) 30P
D1	8-719-900-95	s DIODE V09G
D2	8-719-024-81	s DIODE 1SS300-TE85L
D3	8-719-157-69	s DIODE RD20M-B
D4	8-719-157-54	s DIODE RD12M-B
D5	8-719-024-81	s DIODE 1SS300-TE85L
D6	8-719-820-59	s DIODE 1S1588
D7	8-719-157-54	s DIODE RD12M-B
D8	8-719-024-81	s DIODE 1SS300-TE85L
L3	1-409-914-11	s COIL, CHOKE 10uH
L4	1-409-914-11	s COIL, CHOKE 10uH
L5	1-409-914-11	s COIL, CHOKE 10uH
Q1	8-729-811-11	s TRANSISTOR 2SD1111
Q2	8-729-117-32	s TRANSISTOR 2SC4177
Q3	8-729-807-51	s TRANSISTOR 2SD1623-S
Q4	8-729-117-32	s TRANSISTOR 2SC4177
Q5	8-729-029-14	s TRANSISTOR DTC144EUA-T106
Q6	8-729-029-14	s TRANSISTOR DTC144EUA-T106
Q51	8-729-106-68	s TRANSISTOR 2SC1615A-GP
Q52	8-729-106-68	s TRANSISTOR 2SC1615A-GP
Q53	8-729-117-32	s TRANSISTOR 2SC4177
Q61	8-729-106-68	s TRANSISTOR 2SC1615A-GP
Q62	8-729-106-68	s TRANSISTOR 2SC1615A-GP
Q63	8-729-117-32	s TRANSISTOR 2SC4177
Q71	8-729-106-68	s TRANSISTOR 2SC1615A-GP
Q72	8-729-106-68	s TRANSISTOR 2SC1615A-GP
Q73	8-729-117-32	s TRANSISTOR 2SC4177

(PS-392 BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
Q101	8-729-119-61	s	TRANSISTOR 2SA811A-C15
Q102	8-729-101-07	s	TRANSISTOR 2SB798
Q103	8-729-120-28	s	TRANSISTOR 2SC1623-L5L6
Q104	8-729-120-28	s	TRANSISTOR 2SC1623-L5L6
Q105	8-729-120-28	s	TRANSISTOR 2SC1623-L5L6
Q111	8-729-119-61	s	TRANSISTOR 2SA811A-C15
Q112	8-729-101-07	s	TRANSISTOR 2SB798
Q113	8-729-120-28	s	TRANSISTOR 2SC1623-L5L6
Q114	8-729-120-28	s	TRANSISTOR 2SC1623-L5L6
Q115	8-729-120-28	s	TRANSISTOR 2SC1623-L5L6
R1	1-220-321-11	s	CHIP, METAL 470K 5% 1/4W
R2	1-220-325-11	s	CHIP, METAL 1M 5% 1/4W
R3	1-220-293-11	s	CHIP, METAL 47K 5% 1/4W
R4	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R5	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R6	1-216-025-11	s	CHIP, METAL 100 5% 1/10W
R7	1-216-055-00	s	CHIP, METAL 1.8K 5% 1/10W
R8	1-216-055-00	s	CHIP, METAL 1.8K 5% 1/10W
R9	1-216-089-91	s	METAL 47K 5% 1/10W
R10	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R51	1-216-049-91	s	METAL 1K 5% 1/10W
R52	1-216-017-00	s	CHIP, METAL 47 5% 1/10W
R53	1-216-017-00	s	CHIP, METAL 47 5% 1/10W
R54	1-216-081-00	s	CHIP, METAL 22K 5% 1/10W
R55	1-218-610-11	s	METAL, CHIP 4.7 5% 1W
R61	1-216-049-91	s	METAL 1K 5% 1/10W
R62	1-216-017-00	s	CHIP, METAL 47 5% 1/10W
R63	1-216-017-00	s	CHIP, METAL 47 5% 1/10W
R64	1-216-081-00	s	CHIP, METAL 22K 5% 1/10W
R65	1-218-610-11	s	METAL, CHIP 4.7 5% 1W
R71	1-216-049-91	s	METAL 1K 5% 1/10W
R72	1-216-017-00	s	CHIP, METAL 47 5% 1/10W
R73	1-216-017-00	s	CHIP, METAL 47 5% 1/10W
R74	1-216-081-00	s	CHIP, METAL 22K 5% 1/10W
R75	1-218-610-11	s	METAL, CHIP 4.7 5% 1W
R101	1-216-001-00	s	CHIP, METAL 10 5% 1/10W
R102	1-216-001-00	s	CHIP, METAL 10 5% 1/10W
R103	1-216-097-00	s	CHIP, METAL 100K 5% 1/10W
R104	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R105	1-216-033-00	s	METAL, CHIP 220 5% 1/10W
R106	1-216-097-00	s	CHIP, METAL 100K 5% 1/10W
R107	1-216-097-00	s	CHIP, METAL 100K 5% 1/10W
R108	1-216-097-00	s	CHIP, METAL 100K 5% 1/10W
R109	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R110	1-216-097-00	s	CHIP, METAL 100K 5% 1/10W
R111	1-216-001-00	s	CHIP, METAL 10 5% 1/10W
R112	1-216-001-00	s	CHIP, METAL 10 5% 1/10W
R113	1-216-097-00	s	CHIP, METAL 100K 5% 1/10W
R114	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R115	1-216-033-00	s	METAL, CHIP 220 5% 1/10W
R116	1-216-097-00	s	CHIP, METAL 100K 5% 1/10W
R117	1-216-097-00	s	CHIP, METAL 100K 5% 1/10W
R118	1-216-097-00	s	CHIP, METAL 100K 5% 1/10W
R119	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R120	1-216-097-00	s	CHIP, METAL 100K 5% 1/10W
RY1	1-515-898-11	s	RELAY
RY2	1-515-898-11	s	RELAY
RY3	1-515-898-11	s	RELAY
RY4	1-515-898-11	s	RELAY

SG-234 BOARD

Ref. No. or Q'ty	Part No.	SP	Description
1pc	A-8272-564-A	o	MOUNTED CIRCUIT BOARD, SG-234
1pc	3-692-127-02	o	PANEL, SG-234 PC BOARD
1pc	3-724-753-01	o	RING
6pcs	3-729-061-01	s	SCREW (M2X4.5) (TYPE 1)
C1	1-135-177-21	s	TANTALUM, CHIP 1uF 10% 25V
C2	1-135-159-21	s	TANTALUM, CHIP 10uF 10% 20V
C3	1-135-214-21	s	TANTAL 4.7uF 20% 20V
C4	1-164-156-11	s	CERAMIC 0.1uF 25V
C5	1-164-156-11	s	CERAMIC 0.1uF 25V
C6	1-135-164-21	s	TANTALUM, CHIP 22uF 20% 10V
C7	1-164-156-11	s	CERAMIC 0.1uF 25V
C8	1-135-177-21	s	TANTALUM, CHIP 1uF 10% 25V
C9	1-135-215-21	s	TANTALUM, CHIP 6.8uF 20% 16V
C10	1-135-215-21	s	TANTALUM, CHIP 6.8uF 20% 16V
C11	1-164-156-11	s	CERAMIC 0.1uF 25V
C12	1-164-156-11	s	CERAMIC 0.1uF 25V
C13	1-135-165-11	s	TANTALUM, CHIP 33uF 10% 16V
C14	1-164-156-11	s	CERAMIC 0.1uF 25V
C15	1-164-156-11	s	CERAMIC 0.1uF 25V
C23	1-164-156-11	s	CERAMIC 0.1uF 25V
C24	1-135-215-21	s	TANTALUM, CHIP 6.8uF 20% 16V
C25	1-135-215-21	s	TANTALUM, CHIP 6.8uF 20% 16V
C26	1-164-156-11	s	CERAMIC 0.1uF 25V
C27	1-135-177-21	s	TANTALUM, CHIP 1uF 10% 25V
C28	1-135-215-21	s	TANTALUM, CHIP 6.8uF 20% 16V
C29	1-164-156-11	s	CERAMIC 0.1uF 25V
C30	1-135-210-11	s	TANTALUM 4.7uF 10% 10V
C31	1-164-156-11	s	CERAMIC 0.1uF 25V
C32	1-162-915-11	s	CERAMIC, CHIP 10PF 5PF 50V
C33	1-164-156-11	s	CERAMIC 0.1uF 25V
C34	1-162-966-11	s	CERAMIC, CHIP 0.0022uF 10% 50V
C35	1-135-216-11	s	TANTALUM, CHIP 10uF 20% 10V
C36	1-164-156-11	s	CERAMIC 0.1uF 25V
C37	1-164-156-11	s	CERAMIC 0.1uF 25V
C38	1-162-921-11	s	CERAMIC, CHIP 33PF 5% 50V
C39	1-164-156-11	s	CERAMIC 0.1uF 25V
C40	1-162-921-11	s	CERAMIC, CHIP 33PF 5% 50V
C41	1-162-923-11	s	CERAMIC, CHIP 47PF 5% 50V
C42	1-164-156-11	s	CERAMIC 0.1uF 25V
C43	1-162-925-11	s	CERAMIC, CHIP 68PF 5% 50V
C45	1-135-211-11	s	TANTALUM, CHIP 6.8uF 20% 6.3V
C46	1-164-346-11	s	CERAMIC 1uF 16V
C47	1-164-156-11	s	CERAMIC 0.1uF 25V
C48	1-135-215-21	s	TANTALUM, CHIP 6.8uF 20% 16V
C49	1-164-156-11	s	CERAMIC 0.1uF 25V
C50	1-135-210-11	s	TANTALUM 4.7uF 10% 10V
C51	1-135-161-21	s	TANTALUM, CHIP 22uF 10% 10V
C52	1-135-216-11	s	TANTALUM, CHIP 10uF 20% 10V
C53	1-164-156-11	s	CERAMIC 0.1uF 25V
C54	1-164-156-11	s	CERAMIC 0.1uF 25V
C56	1-165-128-11	s	CERAMIC 0.22uF 16V
C57	1-135-161-21	s	TANTALUM, CHIP 22uF 10% 10V
C58	1-164-156-11	s	CERAMIC 0.1uF 25V
C59	1-164-156-11	s	CERAMIC 0.1uF 25V
C60	1-164-156-11	s	CERAMIC 0.1uF 25V
C62	1-164-156-11	s	CERAMIC 0.1uF 25V
C63	1-162-970-11	s	CERAMIC, CHIP 0.01uF 10% 25V
C64	1-135-165-11	s	TANTALUM, CHIP 33uF 10% 16V
C65	1-164-156-11	s	CERAMIC 0.1uF 25V

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Ref. No. or Q'ty	Part No.	SP	Description
C66	1-164-156-11	s	CERAMIC 0.1uF 25V
C67	1-164-156-11	s	CERAMIC 0.1uF 25V
C68	1-135-210-11	s	TANTALUM 4.7uF 10% 10V
C69	1-164-156-11	s	CERAMIC 0.1uF 25V
C70	1-162-970-11	s	CERAMIC, CHIP 0.01uF 10% 25V
C71	1-135-076-21	s	TANTALUM, CHIP 1uF 10% 35V
C72	1-135-217-21	s	TANTAL 15uF 20% 6.3
C73	1-162-970-11	s	CERAMIC, CHIP 0.01uF 10% 25V
C74	1-164-156-11	s	CERAMIC 0.1uF 25V
C75	1-164-156-11	s	CERAMIC 0.1uF 25V
C76	1-135-216-11	s	TANTALUM, CHIP 10uF 20% 10V
C77	1-164-156-11	s	CERAMIC 0.1uF 25V
C78	1-164-156-11	s	CERAMIC 0.1uF 25V
C79	1-162-909-11	s	CERAMIC 4PF 0.25PF 50V
C80	1-164-315-11	s	CERAMIC 470PF 5% 50V
C81	1-128-391-11	s	ELECT 330uF 20% 6.3V
C82	1-164-156-11	s	CERAMIC 0.1uF 25V
C83	1-164-156-11	s	CERAMIC 0.1uF 25V
C85	1-164-156-11	s	CERAMIC 0.1uF 25V
C87	1-162-919-11	s	CERAMIC, CHIP 22PF 5% 50V
C88	1-162-927-11	s	CERAMIC, CHIP 100PF 5% 50V
C89	1-162-923-11	s	CERAMIC, CHIP 47PF 5% 50V
C90	1-164-156-11	s	CERAMIC 0.1uF 25V
C92	1-164-156-11	s	CERAMIC 0.1uF 25V
C93	1-164-156-11	s	CERAMIC 0.1uF 25V
C94	1-164-156-11	s	CERAMIC 0.1uF 25V
C95	1-135-178-11	s	TANTALUM CHIP 1.5uF 20% 20V
C96	1-164-156-11	s	CERAMIC 0.1uF 25V
C97	1-135-179-21	s	TANTAL 2.2uF 10% 16V
C98	1-164-156-11	s	CERAMIC 0.1uF 25V
C99	1-164-156-11	s	CERAMIC 0.1uF 25V
C100	1-164-156-11	s	CERAMIC 0.1uF 25V
C200	1-164-156-11	s	CERAMIC 0.1uF 25V
C201	1-164-156-11	s	CERAMIC 0.1uF 25V
D1	8-719-029-63	s	DIODE RD4.3UH-T1
D2	8-719-029-63	s	DIODE RD4.3UH-T1
D3	8-719-948-47	s	DIODE HSM88AS
D4	8-719-029-63	s	DIODE RD4.3UH-T1
D5	8-719-820-41	s	DIODE 1SS302
D6	8-719-404-35	s	DIODE MA141WK
D7	8-719-404-35	s	DIODE MA141WK
D8	8-719-041-68	s	DIODE RD3.3UH-T1
D10	8-719-948-47	s	DIODE HSM88AS
D11	8-719-820-41	s	DIODE 1SS302
D12	8-719-948-47	s	DIODE HSM88AS
D13	8-719-948-47	s	DIODE HSM88AS
D14	8-719-800-76	s	DIODE 1SS126
D200	8-719-820-41	s	DIODE 1SS302
D201	8-719-948-47	s	DIODE HSM88AS
FL1	1-239-756-11	s	FILTER, LOW PASS
IC3	8-759-076-06	s	IC TL064CPW
IC5	8-759-254-49	s	IC EL4581CS-TE2
IC8	8-759-082-57	s	IC TC7W04FU
IC11	8-759-082-58	s	IC TC7W08FU
IC12	8-759-064-36	s	IC MB88346BPFV
IC13	8-759-066-59	s	IC TC74HC4053AFS
IC16	8-752-360-44	s	IC CXK1203AR
IC17	8-759-082-61	s	IC TC4W53FU

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Ref. No. or Q'ty	Part No.	SP	Description
IC18	8-759-632-39	s	IC M51958A-T1
IC20	8-759-058-62	s	IC TC7S08FU(TE85R)
IC21	8-759-086-42	s	IC X24C02S-3.0-C7000
IC22	8-759-271-86	s	IC TC7SH04FU
IC25	8-759-079-85	s	IC TC74VHC244FS(EL)
IC30	8-759-079-85	s	IC TC74VHC244FS(EL)
IC31	8-759-271-86	s	IC TC7SH04FU
IC32	8-759-076-06	s	IC TL064CPW
IC33	8-759-066-59	s	IC TC74HC4053AFS
IC34	8-759-184-64	s	IC TC4W66FU
IC35	8-759-049-86	s	IC SN74HCT244APW-E20
IC36	8-759-180-08	s	IC TC74HC4538AFS
IC37	8-759-082-58	s	IC TC7W08FU
IC38	8-759-083-94	s	IC TC7W74FU
IC39	8-759-195-81	s	IC TC7S86FU
IC40	8-759-082-60	s	IC TC7S66FU
IC41	8-759-082-61	s	IC TC4W53FU
IC42	8-759-049-86	s	IC SN74HCT244APW-E20
IC43	8-759-058-54	s	IC TC7S00FU(TE85R)
IC44	8-759-082-61	s	IC TC4W53FU
IC45	8-759-271-86	s	IC TC7SH04FU
IC46	8-759-082-61	s	IC TC4W53FU
IC47	8-759-082-61	s	IC TC4W53FU
IC48	8-759-173-16	s	IC TL062CPW
IC200	8-759-079-61	s	IC TC74VHC74FS(EL)
IC201	8-759-058-58	s	IC TC7S04FU(TE85R)
IC202	8-759-058-64	s	IC TC7S32FU(TE85R)
IC203	8-759-058-62	s	IC TC7S08FU(TE85R)
IC204	8-759-082-61	s	IC TC4W53FU
IC206	8-759-173-16	s	IC TL062CPW
IC207	8-759-058-55	s	IC TC7S02FU-TE85L
L1	1-410-737-31	s	INDUCTOR CHIP 0.47UH
L2	1-410-737-31	s	INDUCTOR CHIP 0.47UH
L4	1-410-737-31	s	INDUCTOR CHIP 0.47UH
L5	1-410-385-11	s	INDUCTOR, CHIP 22uH
L6	1-410-385-11	s	INDUCTOR, CHIP 22uH
L7	1-410-385-11	s	INDUCTOR, CHIP 22uH
L8	1-410-385-11	s	INDUCTOR, CHIP 22uH
L9	1-410-385-11	s	INDUCTOR, CHIP 22uH
Q1	8-729-141-48	s	TRANSISTOR 2SB624-BV345
Q2	8-729-141-48	s	TRANSISTOR 2SB624-BV345
Q4	8-729-141-75	s	TRANSISTOR 2SD596DV345
Q5	8-729-117-73	s	TRANSISTOR 2SC4178-F14
Q6	8-729-117-16	s	TRANSISTOR 2SA1611-M6
Q7	8-729-117-32	s	TRANSISTOR 2SC4177
Q8	8-729-117-73	s	TRANSISTOR 2SC4178-F14
Q9	8-729-117-32	s	TRANSISTOR 2SC4177
Q10	8-729-117-73	s	TRANSISTOR 2SC4178-F14
Q11	8-729-117-32	s	TRANSISTOR 2SC4177
Q12	8-729-403-29	s	TRANSISTOR XN6435
Q14	8-729-117-32	s	TRANSISTOR 2SC4177
Q15	8-729-117-73	s	TRANSISTOR 2SC4178-F14
Q16	8-729-118-56	s	TRANSISTOR 2SK852-X2
Q17	8-729-117-32	s	TRANSISTOR 2SC4177
Q18	8-729-920-48	s	TRANSISTOR IMH2
Q20	8-729-029-14	s	TRANSISTOR DTC144EUA-T106
Q21	8-729-118-56	s	TRANSISTOR 2SK852-X2
Q22	8-729-029-14	s	TRANSISTOR DTC144EUA-T106

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Ref. No. or Q'ty	Part No.	SP	Description
Q23	8-729-029-14	s	TRANSISTOR DTC144EUA-T106
Q24	8-729-029-14	s	TRANSISTOR DTC144EUA-T106
Q25	8-729-029-14	s	TRANSISTOR DTC144EUA-T106
Q26	8-729-029-14	s	TRANSISTOR DTC144EUA-T106
Q200	8-729-029-14	s	TRANSISTOR DTC144EUA-T106
Q201	8-729-029-14	s	TRANSISTOR DTC144EUA-T106
Q202	8-729-216-22	s	TRANSISTOR 2SA1162
Q203	8-729-029-14	s	TRANSISTOR DTC144EUA-T106
Q204	8-729-029-14	s	TRANSISTOR DTC144EUA-T106
Q205	8-729-117-32	s	TRANSISTOR 2SC4177
R1	1-218-716-11	s	METAL 10K 0.50% 1/16W
R2	1-216-864-11	s	METAL, CHIP 0 5% 1/16W
R3	1-216-864-11	s	METAL, CHIP 0 5% 1/16W
R5	1-216-864-11	s	METAL, CHIP 0 5% 1/16W
R6	1-218-677-11	s	CHIP, METAL 240 0.50% 1/16W
R7	1-218-723-11	s	METAL 20K 0.50% 1/16W
R8	1-218-724-11	s	CHIP, METAL 22K 5% 1/16W
R9	1-218-729-11	s	CHIP, METAL 36K 0.50% 1/16W
R10	1-218-723-11	s	METAL 20K 0.50% 1/16W
R11	1-216-864-11	s	METAL, CHIP 0 5% 1/16W
R15	1-216-864-11	s	METAL, CHIP 0 5% 1/16W
R16	1-218-724-11	s	CHIP, METAL 22K 5% 1/16W
R17	1-218-720-11	s	METAL 15K 0.50% 1/16W
R18	1-216-845-11	s	METAL, CHIP 100K 5% 1/16W
R21	1-218-692-11	s	CHIP, METAL 1K 0.50% 1/16W
R22	1-218-692-11	s	CHIP, METAL 1K 0.50% 1/16W
R23	1-216-805-11	s	METAL, CHIP 47 5% 1/16W
R24	1-218-704-11	s	METAL 3.3K 0.50% 1/16W
R25	1-216-831-11	s	METAL, CHIP 6.8K 5% 1/16W
R26	1-218-700-11	s	METAL 2.2K 0.50% 1/16W
R27	1-218-700-11	s	METAL 2.2K 0.50% 1/16W
R28	1-218-706-11	s	METAL 3.9K 0.50% 1/16W
R29	1-218-873-11	s	CHIP, METAL 12K 0.50% 1/16W
R30	1-218-716-11	s	METAL 10K 0.50% 1/16W
R31	1-218-716-11	s	METAL 10K 0.50% 1/16W
R32	1-218-720-11	s	METAL 15K 0.50% 1/16W
R33	1-218-708-11	s	METAL 4.7K 0.50% 1/16W
R34	1-218-724-11	s	CHIP, METAL 22K 5% 1/16W
R35	1-218-732-11	s	METAL 47K 0.50% 1/16W
R36	1-218-704-11	s	METAL 3.3K 0.50% 1/16W
R37	1-218-706-11	s	METAL 3.9K 0.50% 1/16W
R38	1-218-716-11	s	METAL 10K 0.50% 1/16W
R39	1-218-736-11	s	METAL 68K 0.50% 1/16W
R40	1-218-889-11	s	CHIP, METAL 56K 0.50% 1/16W
R41	1-218-716-11	s	METAL 10K 0.50% 1/16W
R42	1-218-704-11	s	METAL 3.3K 0.50% 1/16W
R43	1-218-740-11	s	METAL 100K 0.50% 1/16W
R44	1-218-845-11	s	CHIP, METAL 820 0.50% 1/16W
R45	1-218-700-11	s	METAL 2.2K 0.50% 1/16W
R46	1-218-700-11	s	METAL 2.2K 0.50% 1/16W
R47	1-218-716-11	s	METAL 10K 0.50% 1/16W
R48	1-218-720-11	s	METAL 15K 0.50% 1/16W
R49	1-216-809-11	s	METAL, CHIP 100 5% 1/16W
R50	1-216-817-11	s	METAL, CHIP 470 5% 1/16W
R51	1-218-692-11	s	CHIP, METAL 1K 0.50% 1/16W
R52	1-218-706-11	s	METAL 3.9K 0.50% 1/16W
R54	1-216-855-11	s	METAL, CHIP 680K 5% 1/16W
R55	1-218-706-11	s	METAL 3.9K 0.50% 1/16W
R56	1-218-692-11	s	CHIP, METAL 1K 0.50% 1/16W

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Ref. No. or Q'ty	Part No.	SP	Description
R57	1-216-845-11	s	METAL, CHIP 100K 5% 1/16W
R58	1-216-809-11	s	METAL, CHIP 100 5% 1/16W
R59	1-216-809-11	s	METAL, CHIP 100 5% 1/16W
R60	1-216-809-11	s	METAL, CHIP 100 5% 1/16W
R61	1-218-833-11	s	CHIP, METAL 270 0.50% 1/16W
R62	1-216-845-11	s	METAL, CHIP 100K 5% 1/16W
R63	1-218-692-11	s	CHIP, METAL 1K 0.50% 1/16W
R64	1-216-849-11	s	METAL, CHIP 220K 5% 1/16W
R65	1-216-849-11	s	METAL, CHIP 220K 5% 1/16W
R66	1-216-845-11	s	METAL, CHIP 100K 5% 1/16W
R67	1-218-881-11	s	CHIP, METAL 27K 0.50% 1/16W
R68	1-218-716-11	s	METAL 10K 0.50% 1/16W
R69	1-218-874-11	s	CHIP, METAL 13K 0.50% 1/16W
R71	1-216-864-11	s	METAL, CHIP 0 5% 1/16W
R77	1-216-864-11	s	METAL, CHIP 0 5% 1/16W
R78	1-218-692-11	s	CHIP, METAL 1K 0.50% 1/16W
R79	1-218-716-11	s	METAL 10K 0.50% 1/16W
R80	1-216-809-11	s	METAL, CHIP 100 5% 1/16W
R81	1-216-809-11	s	METAL, CHIP 100 5% 1/16W
R83	1-216-864-11	s	METAL, CHIP 0 5% 1/16W
R84	1-216-809-11	s	METAL, CHIP 100 5% 1/16W
R85	1-216-805-11	s	METAL, CHIP 47 5% 1/16W
R86	1-216-805-11	s	METAL, CHIP 47 5% 1/16W
R90	1-216-805-11	s	METAL, CHIP 47 5% 1/16W
R92	1-216-805-11	s	METAL, CHIP 47 5% 1/16W
R95	1-218-692-11	s	CHIP, METAL 1K 0.50% 1/16W
R96	1-218-716-11	s	METAL 10K 0.50% 1/16W
R97	1-218-716-11	s	METAL 10K 0.50% 1/16W
R98	1-218-716-11	s	METAL 10K 0.50% 1/16W
R99	1-218-883-11	s	METAL 33K 0.50% 1/16W
R100	1-218-692-11	s	CHIP, METAL 1K 0.50% 1/16W
R101	1-218-692-11	s	CHIP, METAL 1K 0.50% 1/16W
R102	1-218-740-11	s	METAL 100K 0.50% 1/16W
R103	1-218-732-11	s	METAL 47K 0.50% 1/16W
R104	1-218-710-11	s	CHIP, METAL 5.6K 0.50% 1/16W
R105	1-218-716-11	s	METAL 10K 0.50% 1/16W
R106	1-218-710-11	s	CHIP, METAL 5.6K 0.50% 1/16W
R107	1-218-710-11	s	CHIP, METAL 5.6K 0.50% 1/16W
R108	1-218-700-11	s	METAL 2.2K 0.50% 1/16W
R109	1-218-732-11	s	METAL 47K 0.50% 1/16W
R110	1-216-805-11	s	METAL, CHIP 47 5% 1/16W
R111	1-216-805-11	s	METAL, CHIP 47 5% 1/16W
R112	1-216-805-11	s	METAL, CHIP 47 5% 1/16W
R113	1-216-857-11	s	METAL, CHIP 1M 5% 1/16W
R114	1-216-805-11	s	METAL, CHIP 47 5% 1/16W
R115	1-218-692-11	s	CHIP, METAL 1K 0.50% 1/16W
R116	1-216-805-11	s	METAL, CHIP 47 5% 1/16W
R117	1-218-716-11	s	METAL 10K 0.50% 1/16W
R118	1-216-845-11	s	METAL, CHIP 100K 5% 1/16W
R119	1-216-845-11	s	METAL, CHIP 100K 5% 1/16W
R121	1-216-857-11	s	METAL, CHIP 1M 5% 1/16W
R122	1-218-692-11	s	CHIP, METAL 1K 0.50% 1/16W
R123	1-218-716-11	s	METAL 10K 0.50% 1/16W
R124	1-216-845-11	s	METAL, CHIP 100K 5% 1/16W
R126	1-216-797-11	s	METAL, CHIP 10 5% 1/16W
R127	1-218-692-11	s	CHIP, METAL 1K 0.50% 1/16W
R128	1-218-692-11	s	CHIP, METAL 1K 0.50% 1/16W
R129	1-216-849-11	s	METAL, CHIP 220K 5% 1/16W
R130	1-216-857-11	s	METAL, CHIP 1M 5% 1/16W

(SG-234 BOARD)

Ref. No. or Q'ty	Part No.	SP Description
R131	1-216-857-11	s METAL, CHIP 1M 5% 1/16W
R132	1-218-732-11	s METAL, 47K 0.50% 1/16W
R133	1-216-864-11	s METAL, CHIP 0 5% 1/16W
R134	1-216-805-11	s METAL, CHIP 47 5% 1/16W
R135	1-216-845-11	s METAL, CHIP 100K 5% 1/16W
R136	1-216-849-11	s METAL, CHIP 220K 5% 1/16W
R137	1-216-849-11	s METAL, CHIP 220K 5% 1/16W
R138	1-218-692-11	s CHIP, METAL 1K 0.50% 1/16W
R139	1-218-697-11	s METAL 1.6K 0.50% 1/16W
R140	1-218-899-11	s CHIP, METAL 150K 0.50% 1/16W
R141	1-218-868-11	s CHIP, METAL 7.5K 0.50% 1/16W
R144	1-216-845-11	s METAL, CHIP 100K 5% 1/16W
R145	1-216-845-11	s METAL, CHIP 100K 5% 1/16W
R146	1-216-864-11	s METAL, CHIP 0 5% 1/16W
R148	1-216-845-11	s METAL, CHIP 100K 5% 1/16W
R149	1-216-864-11	s METAL, CHIP 0 5% 1/16W
R150	1-216-864-11	s METAL, CHIP 0 5% 1/16W
R151	1-218-732-11	s METAL 47K 0.50% 1/16W
R152	1-218-732-11	s METAL 47K 0.50% 1/16W
R153	1-218-732-11	s METAL 47K 0.50% 1/16W
R154	1-218-732-11	s METAL 47K 0.50% 1/16W
R200	1-218-692-11	s CHIP, METAL 1K 0.50% 1/16W
R201	1-216-845-11	s METAL, CHIP 100K 5% 1/16W
R202	1-216-845-11	s METAL, CHIP 100K 5% 1/16W
R203	1-216-829-11	s METAL, CHIP 4.7K 5% 1/16W
R204	1-218-716-11	s METAL 10K 0.50% 1/16W
R205	1-216-845-11	s METAL, CHIP 100K 5% 1/16W
R206	1-216-845-11	s METAL, CHIP 100K 5% 1/16W
R207	1-216-829-11	s METAL, CHIP 4.7K 5% 1/16W
R208	1-216-845-11	s METAL, CHIP 100K 5% 1/16W
R209	1-218-716-11	s METAL 10K 0.50% 1/16W
R210	1-216-845-11	s METAL, CHIP 100K 5% 1/16W
R211	1-216-845-11	s METAL, CHIP 100K 5% 1/16W
RB1	1-239-409-11	s NETWORK, RESISTOR (CHIP TYPE)
RB2	1-239-409-11	s NETWORK, RESISTOR (CHIP TYPE)
RB3	1-239-409-11	s NETWORK, RESISTOR (CHIP TYPE)
RB4	1-239-409-11	s NETWORK, RESISTOR (CHIP TYPE)
RB5	1-239-409-11	s NETWORK, RESISTOR (CHIP TYPE)
RB10	1-239-409-11	s NETWORK, RESISTOR (CHIP TYPE)

SW-795 BOARD

Ref. No. or Q'ty	Part No.	SP Description
1pc	A-8272-806-A	o MOUNTED CIRCUIT BOARD, SW-795
1pc	3-708-930-01	s CAP
1pc	3-708-930-11	s CAP
1pc	3-708-930-21	s CAP
1pc	3-708-932-01	s CAP
1pc	3-708-933-01	s CAP
1pc	3-708-933-11	s CAP
1pc	3-708-934-01	s CAP
1pc	3-710-803-03	o HOLDER, DIA. 5-9 LED
C10	1-135-212-21	s TANTALUM, CHIP 2.2uF 20% 35V
C11	1-104-913-11	s TANTALUM, CHIP 10uF 20% 16V
C12	1-104-913-11	s TANTALUM, CHIP 10uF 20% 16V
C13	1-135-159-21	s TANTALUM, CHIP 10uF 10% 20V
C14	1-135-159-21	s TANTALUM, CHIP 10uF 10% 20V
C100	1-163-038-00	s CHIP, CERAMIC 0.1uF 25V
C200	1-163-038-00	s CHIP, CERAMIC 0.1uF 25V
C300	1-163-038-00	s CHIP, CERAMIC 0.1uF 25V
C400	1-163-038-00	s CHIP, CERAMIC 0.1uF 25V
C500	1-163-038-00	s CHIP, CERAMIC 0.1uF 25V
C501	1-163-038-00	s CHIP, CERAMIC 0.1uF 25V
C502	1-131-367-00	s TANTALUM, 22uF 10% 16V
C504	1-107-690-11	s TANTALUM 6.8uF 20% 35V
C550	1-163-038-00	s CHIP, CERAMIC 0.1uF 25V
C600	1-163-038-00	s CHIP, CERAMIC 0.1uF 25V
C601	1-163-038-00	s CHIP, CERAMIC 0.1uF 25V
C602	1-163-038-00	s CHIP, CERAMIC 0.1uF 25V
C603	1-163-038-00	s CHIP, CERAMIC 0.1uF 25V
C604	1-163-038-00	s CHIP, CERAMIC 0.1uF 25V
C605	1-163-038-00	s CHIP, CERAMIC 0.1uF 25V
C606	1-104-913-11	s TANTALUM, CHIP 10uF 20% 16V
C607	1-163-038-00	s CHIP, CERAMIC 0.1uF 25V
C610	1-163-038-00	s CHIP, CERAMIC 0.1uF 25V
C611	1-163-038-00	s CHIP, CERAMIC 0.1uF 25V
CN1	1-774-260-11	o CONNECTOR, FFC (ZIF) 20P
D502	8-719-946-89	s DIODE GL5ED5
IC10	8-759-082-58	s IC TC7W08FU
IC100	8-759-990-63	s IC PCF8574AT
IC200	8-759-990-63	s IC PCF8574AT
IC300	8-759-990-63	s IC PCF8574AT
IC400	8-759-990-63	s IC PCF8574AT
IC500	8-759-990-63	s IC PCF8574AT
IC501	8-759-990-63	s IC PCF8574AT
IC503	8-759-276-00	s IC TC7W139FU(TE12R)
IC505	8-759-079-49	s IC TC74VHC04FS(EL)
IC506	8-759-082-57	s IC TC7W04FU
IC550	8-759-209-54	s IC TC4S01F
IC551	8-759-209-54	s IC TC4S01F
IC600	8-759-076-06	s IC TL064CPW
IC601	8-759-369-94	s IC ADC10734C1MSA
L10	1-412-029-11	s INDUCTOR CHIP 10uH
L11	1-412-029-11	s INDUCTOR CHIP 10uH
L12	1-412-029-11	s INDUCTOR CHIP 10uH
L13	1-412-029-11	s INDUCTOR CHIP 10uH
L14	1-412-029-11	s INDUCTOR CHIP 10uH
L600	1-412-029-11	s INDUCTOR CHIP 10uH
Q500	8-729-027-57	s TRANSISTOR DTC143XKA-T146

(SW-795 BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
Q501	8-729-027-57	s	TRANSISTOR DTC143XKA-T146
Q502	8-729-027-57	s	TRANSISTOR DTC143XKA-T146
Q503	8-729-027-57	s	TRANSISTOR DTC143XKA-T146
Q504	8-729-027-57	s	TRANSISTOR DTC143XKA-T146
Q505	8-729-027-57	s	TRANSISTOR DTC143XKA-T146
Q506	8-729-027-57	s	TRANSISTOR DTC143XKA-T146
Q550	8-729-027-59	s	TRANSISTOR DTC144EKA-T146
Q551	8-729-027-59	s	TRANSISTOR DTC144EKA-T146
Q552	8-729-027-36	s	TRANSISTOR DTA143XKA-T146
R10	1-218-760-11	s	CHIP, METAL 220K 0.50% 1/10W
R11	1-208-854-11	s	CHIP, METAL 1M 0.50% 1/10W
R12	1-216-651-11	s	METAL, CHIP 1K 0.5% 1/10W
R13	1-216-627-11	s	CHIP, METAL 100 0.50% 1/10W
R506	1-216-646-11	s	METAL, CHIP 620 0.5% 1/10W
R507	1-216-646-11	s	METAL, CHIP 620 0.5% 1/10W
R508	1-216-646-11	s	METAL, CHIP 620 0.5% 1/10W
R509	1-216-646-11	s	METAL, CHIP 620 0.5% 1/10W
R510	1-216-651-11	s	METAL, CHIP 1K 0.5% 1/10W
R511	1-208-774-11	s	CHIP, METAL 470 0.50% 1/10W
R512	1-216-651-11	s	METAL, CHIP 1K 0.5% 1/10W
R526	1-216-646-11	s	METAL, CHIP 620 0.5% 1/10W
R527	1-216-646-11	s	METAL, CHIP 620 0.5% 1/10W
R528	1-216-646-11	s	METAL, CHIP 620 0.5% 1/10W
R529	1-216-646-11	s	METAL, CHIP 620 0.5% 1/10W
R530	1-216-651-11	s	METAL, CHIP 1K 0.5% 1/10W
R531	1-208-774-11	s	CHIP, METAL 470 0.50% 1/10W
R532	1-216-651-11	s	METAL, CHIP 1K 0.5% 1/10W
R551	1-208-817-11	s	CHIP, METAL 30K 0.50% 1/10W
R552	1-208-810-11	s	CHIP, METAL 15K 0.50% 1/10W
R553	1-216-687-11	s	METAL, CHIP 33K 0.5% 1/10W
R554	1-216-687-11	s	METAL, CHIP 33K 0.5% 1/10W
R555	1-208-775-11	s	CHIP, METAL 510 0.50% 1/10W
R556	1-216-646-11	s	METAL, CHIP 620 0.5% 1/10W
R600	1-218-760-11	s	CHIP, METAL 220K 0.50% 1/10W
R601	1-218-760-11	s	CHIP, METAL 220K 0.50% 1/10W
R602	1-216-651-11	s	METAL, CHIP 1K 0.5% 1/10W
R603	1-216-627-11	s	CHIP, METAL 100 0.50% 1/10W
R610	1-216-295-11	s	CHIP, CONDUCTOR 0
RB100	1-236-907-11	s	RESISTOR BLOCK, CHIP 100KX4
RB101	1-236-907-11	s	RESISTOR BLOCK, CHIP 100KX4
RB200	1-236-907-11	s	RESISTOR BLOCK, CHIP 100KX4
RB201	1-236-907-11	s	RESISTOR BLOCK, CHIP 100KX4
RB300	1-236-907-11	s	RESISTOR BLOCK, CHIP 100KX4
RB301	1-236-907-11	s	RESISTOR BLOCK, CHIP 100KX4
RB400	1-236-907-11	s	RESISTOR BLOCK, CHIP 100KX4
RB401	1-236-907-11	s	RESISTOR BLOCK, CHIP 100KX4
RB500	1-236-907-11	s	RESISTOR BLOCK, CHIP 100KX4
RB501	1-236-907-11	s	RESISTOR BLOCK, CHIP 100KX4
RB502	1-236-907-11	s	RESISTOR BLOCK, CHIP 100KX4
RB503	1-236-907-11	s	RESISTOR BLOCK, CHIP 100KX4
RB600	1-239-416-11	s	RESISTOR BLOCK, CHIP 220X4
RB601	1-239-436-11	s	RESISTOR BLOCK, CHIP 33KX4
RB602	1-239-448-11	s	RESISTOR BLOCK, CHIP 470KX4
RB603	1-239-448-11	s	RESISTOR BLOCK, CHIP 470KX4
RV600	1-223-741-11	s	RES, VAR METAL CARBON 50K
RV601	1-223-741-11	s	RES, VAR METAL CARBON 50K
RV602	1-223-741-11	s	RES, VAR METAL CARBON 50K
RV603	1-223-741-11	s	RES, VAR METAL CARBON 50K

(SW-795 BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
S10	1-473-435-11	s	ENCODER, ROTARY
S100	1-762-122-11	s	SWITCH, TOGGLE
S101	1-762-122-11	s	SWITCH, TOGGLE
S102	1-762-122-11	s	SWITCH, TOGGLE
S103	1-762-122-11	s	SWITCH, TOGGLE
S104	1-553-572-00	s	SWITCH, DIP 4-CKT
S200	1-762-123-11	s	SWITCH, TOGGLE
S201	1-762-531-11	s	SWITCH, TOGGLE
S202	1-762-124-11	s	SWITCH, TOGGLE
S203	1-762-123-11	s	SWITCH, TOGGLE
S300	1-762-532-11	s	SWITCH, ROTARY
S301	1-762-532-11	s	SWITCH, ROTARY
S400	1-762-534-11	s	SWITCH, PUSH (3 KEY)
S403	1-762-533-11	s	SWITCH, PUSH (2 KEY)
S500	1-762-129-11	s	SWITCH, PUSH
S501	1-762-129-21	s	SWITCH, PUSH
S502	1-762-129-31	s	SWITCH, PUSH
S503	1-762-131-11	s	SWITCH, PUSH
S504	1-762-132-11	s	SWITCH, PUSH
S505	1-762-133-11	s	SWITCH, PUSH
S506	1-762-132-21	s	SWITCH, PUSH

SW-805 BOARD

Ref. No. or Q'ty	Part No.	SP Description
1pc	1-658-605-21	o PRINTED CIRCUIT BOARD, SW-805
C1	1-163-275-11	s CERAMIC 0.001uF 5% 50V
C2	1-163-275-11	s CERAMIC 0.001uF 5% 50V
C3	1-163-275-11	s CERAMIC 0.001uF 5% 50V
C4	1-163-275-11	s CERAMIC 0.001uF 5% 50V
C5	1-163-275-11	s CERAMIC 0.001uF 5% 50V
C6	1-163-275-11	s CERAMIC 0.001uF 5% 50V
C7	1-163-275-11	s CERAMIC 0.001uF 5% 50V
C8	1-163-275-11	s CERAMIC 0.001uF 5% 50V
C9	1-163-275-11	s CERAMIC 0.001uF 5% 50V
C10	1-163-275-11	s CERAMIC 0.001uF 5% 50V
C11	1-163-275-11	s CERAMIC 0.001uF 5% 50V
CN1	1-580-544-11	s PIN, CONNECTOR 30P
CN11	1-506-475-11	o PIN, CONNECTOR 10P
R1	1-216-295-00	s CHIP, METAL 0
R2	1-216-295-00	s CHIP, METAL 0
R3	1-216-073-00	s CHIP, METAL 10K 5% 1/10W
R4	1-216-073-00	s CHIP, METAL 10K 5% 1/10W
RV1	1-223-742-11	s RES, VAR METAL CARBON 50K
RV3	1-223-742-11	s RES, VAR METAL CARBON 50K
S1	1-762-122-11	s SWITCH, TOGGLE
S3	1-762-122-11	s SWITCH, TOGGLE

TR-90 BOARD

Ref. No. or Q'ty	Part No.	SP Description
1pc	A-8272-586-A	o MOUNTED CIRCUIT BOARD, TR-90
1pc	3-692-163-02	o PANEL, TR-90 PC BOARD
1pc	3-724-753-01	o RING
6pcs	3-729-061-01	s SCREW (M2X4.5) (TYPE 1)
C1	1-135-165-11	s TANTALUM, CHIP 33uF 10% 16V
C2	1-135-177-21	s TANTALUM, CHIP 1uF 10% 25V
C3	1-135-210-11	s TANTALUM 4.7uF 10% 10V
C4	1-135-216-11	s TANTALUM, CHIP 10uF 20% 10V
C6	1-164-156-11	s CERAMIC 0.1uF 25V
C9	1-164-392-11	s CERAMIC 390PF 5% 50V
C10	1-162-957-11	s CERAMIC 220PF 5% 50V
C13	1-164-156-11	s CERAMIC 0.1uF 25V
C14	1-135-177-21	s TANTALUM, CHIP 1uF 10% 25V
C15	1-162-928-11	s CERAMIC 120PF 5% 50V
C16	1-135-216-11	s TANTALUM, CHIP 10uF 20% 10V
C17	1-164-156-11	s CERAMIC 0.1uF 25V
C18	1-164-264-11	s CHIP, CERAMIC 82PF 5% 50V
C19	1-164-264-11	s CHIP, CERAMIC 82PF 5% 50V
C20	1-164-392-11	s CERAMIC 390PF 5% 50V
C21	1-162-957-11	s CERAMIC 220PF 5% 50V
C24	1-164-156-11	s CERAMIC 0.1uF 25V
C25	1-164-156-11	s CERAMIC 0.1uF 25V
C26	1-164-156-11	s CERAMIC 0.1uF 25V
C27	1-135-216-11	s TANTALUM, CHIP 10uF 20% 10V
C28	1-164-156-11	s CERAMIC 0.1uF 25V
C29	1-135-177-21	s TANTALUM, CHIP 1uF 10% 25V
C30	1-135-216-11	s TANTALUM, CHIP 10uF 20% 10V
C31	1-162-928-11	s CERAMIC 120PF 5% 50V
C32	1-135-216-11	s TANTALUM, CHIP 10uF 20% 10V
C33	1-164-156-11	s CERAMIC 0.1uF 25V
C34	1-162-925-11	s CERAMIC, CHIP 68PF 5% 50V
C35	1-164-264-11	s CHIP, CERAMIC 82PF 5% 50V
C36	1-164-392-11	s CERAMIC 390PF 5% 50V
C37	1-162-957-11	s CERAMIC 220PF 5% 50V
C40	1-164-156-11	s CERAMIC 0.1uF 25V
C41	1-135-165-11	s TANTALUM, CHIP 33uF 10% 16V
C42	1-162-974-11	s CERAMIC 0.01uF 50V
C43	1-162-974-11	s CERAMIC 0.01uF 50V
C44	1-164-156-11	s CERAMIC 0.1uF 25V
C45	1-135-157-21	s TANTAL 10uF 10% 6.3V
C46	1-162-921-11	s CERAMIC, CHIP 33PF 5% 50V
C47	1-162-921-11	s CERAMIC, CHIP 33PF 5% 50V
C48	1-164-227-11	s CERAMIC 0.022uF 10% 25V
C49	1-164-156-11	s CERAMIC 0.1uF 25V
C50	1-162-959-11	s CERAMIC 330PF 5% 50V
C51	1-135-216-11	s TANTALUM, CHIP 10uF 20% 10V
C52	1-135-177-21	s TANTALUM, CHIP 1uF 10% 25V
C53	1-135-216-11	s TANTALUM, CHIP 10uF 20% 10V
C54	1-162-925-11	s CERAMIC, CHIP 68PF 5% 50V
C55	1-164-156-11	s CERAMIC 0.1uF 25V
C57	1-164-392-11	s CERAMIC 390PF 5% 50V
C58	1-162-957-11	s CERAMIC 220PF 5% 50V
C59	1-135-216-11	s TANTALUM, CHIP 10uF 20% 10V
C61	1-135-210-11	s TANTALUM 4.7uF 10% 10V
C62	1-135-177-21	s TANTALUM, CHIP 1uF 10% 25V
C63	1-135-177-21	s TANTALUM, CHIP 1uF 10% 25V
C65	1-162-974-11	s CERAMIC 0.01uF 50V
C66	1-164-156-11	s CERAMIC 0.1uF 25V
C67	1-162-970-11	s CERAMIC, CHIP 0.01uF 10% 25V

(TR-90 BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
C68	1-135-216-11	s	TANTALUM, CHIP 10uF 20% 10V
C69	1-162-974-11	s	CERAMIC 0.01uF 50V
C200	1-162-974-11	s	CERAMIC 0.01uF 50V
C201	1-135-210-11	s	TANTALUM 4.7uF 10% 10V
C202	1-164-156-11	s	CERAMIC 0.1uF 25V
C203	1-162-964-11	s	CERAMIC 0.001uF 10% 50V
C204	1-162-964-11	s	CERAMIC 0.001uF 10% 50V
C205	1-164-156-11	s	CERAMIC 0.1uF 25V
C206	1-164-156-11	s	CERAMIC 0.1uF 25V
C207	1-164-156-11	s	CERAMIC 0.1uF 25V
C208	1-164-265-11	s	CHIP, CERAMIC 100PF 5% 50V
C210	1-162-974-11	s	CERAMIC 0.01uF 50V
C211	1-162-974-11	s	CERAMIC 0.01uF 50V
C212	1-164-156-11	s	CERAMIC 0.1uF 25V
C213	1-135-177-21	s	TANTALUM, CHIP 1uF 10% 25V
C214	1-135-166-21	s	TANTALUM, CHIP 47uF 10% 10V
C215	1-162-958-11	s	CERAMIC 270PF 5% 50V
C216	1-162-925-11	s	CERAMIC, CHIP 68PF 5% 50V
C217	1-164-392-11	s	CERAMIC 390PF 5% 50V
C218	1-135-177-21	s	TANTALUM, CHIP 1uF 10% 25V
C219	1-135-157-21	s	TANTAL 10uF 10% 6.3V
C220	1-135-177-21	s	TANTALUM, CHIP 1uF 10% 25V
C221	1-164-156-11	s	CERAMIC 0.1uF 25V
C222	1-164-156-11	s	CERAMIC 0.1uF 25V
C223	1-164-156-11	s	CERAMIC 0.1uF 25V
C224	1-164-156-11	s	CERAMIC 0.1uF 25V
C225	1-164-265-11	s	CHIP, CERAMIC 100PF 5% 50V
C228	1-162-974-11	s	CERAMIC 0.01uF 50V
C229	1-162-974-11	s	CERAMIC 0.01uF 50V
C230	1-164-156-11	s	CERAMIC 0.1uF 25V
C231	1-135-177-21	s	TANTALUM, CHIP 1uF 10% 25V
C232	1-135-166-21	s	TANTALUM, CHIP 47uF 10% 10V
C233	1-162-964-11	s	CERAMIC 0.001uF 10% 50V
C234	1-164-156-11	s	CERAMIC 0.1uF 25V
C235	1-164-156-11	s	CERAMIC 0.1uF 25V
C236	1-164-460-11	s	CHIP, CERAMIC 62PF 5% 50V
C237	1-164-156-11	s	CERAMIC 0.1uF 25V
C238	1-135-164-21	s	TANTALUM, CHIP 22uF 20% 10V
C239	1-164-156-11	s	CERAMIC 0.1uF 25V
C240	1-164-156-11	s	CERAMIC 0.1uF 25V
C241	1-162-927-11	s	CERAMIC, CHIP 100PF 5% 50V
C242	1-164-156-11	s	CERAMIC 0.1uF 25V
C243	1-135-210-11	s	TANTALUM 4.7uF 10% 10V
C244	1-135-177-21	s	TANTALUM, CHIP 1uF 10% 25V
C245	1-135-166-21	s	TANTALUM, CHIP 47uF 10% 10V
C246	1-162-957-11	s	CERAMIC 220PF 5% 50V
C247	1-162-957-11	s	CERAMIC 220PF 5% 50V
C248	1-164-156-11	s	CERAMIC 0.1uF 25V
C249	1-164-156-11	s	CERAMIC 0.1uF 25V
C250	1-164-382-11	s	CERAMIC 91PF 5% 50V
C251	1-164-156-11	s	CERAMIC 0.1uF 25V
C252	1-135-164-21	s	TANTALUM, CHIP 22uF 20% 10V
C253	1-164-156-11	s	CERAMIC 0.1uF 25V
C254	1-164-156-11	s	CERAMIC 0.1uF 25V
C255	1-162-927-11	s	CERAMIC, CHIP 100PF 5% 50V
C256	1-164-156-11	s	CERAMIC 0.1uF 25V
C257	1-135-210-11	s	TANTALUM 4.7uF 10% 10V
C258	1-135-177-21	s	TANTALUM, CHIP 1uF 10% 25V
C259	1-135-166-21	s	TANTALUM, CHIP 47uF 10% 10V

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Ref. No. or Q'ty	Part No.	SP	Description
C260	1-162-957-11	s	CERAMIC 220PF 5% 50V
C261	1-162-957-11	s	CERAMIC 220PF 5% 50V
C276	1-135-215-21	s	TANTALUM, CHIP 6.8uF 20% 16V
C277	1-135-215-21	s	TANTALUM, CHIP 6.8uF 20% 16V
C278	1-162-957-11	s	CERAMIC 220PF 5% 50V
C279	1-162-957-11	s	CERAMIC 220PF 5% 50V
C281	1-135-210-11	s	TANTALUM 4.7uF 10% 10V
C282	1-135-179-21	s	TANTAL 2.2uF 10% 16V
C283	1-135-149-21	s	TANTALUM, CHIP 2.2uF 10% 10V
C284	1-135-161-21	s	TANTALUM, CHIP 22uF 10% 10V
C285	1-135-161-21	s	TANTALUM, CHIP 22uF 10% 10V
C286	1-135-161-21	s	TANTALUM, CHIP 22uF 10% 10V
C287	1-135-161-21	s	TANTALUM, CHIP 22uF 10% 10V
C288	1-164-156-11	s	CERAMIC 0.1uF 25V
C301	1-162-957-11	s	CHIP, CERAMIC 220PF 5% 50V
CF1	1-578-068-12	s	FILTER, CERAMIC 7.100MHZ
CF2	1-760-447-11	s	FILTER, CERAMIC 6.200MHZ
CF3	1-578-067-11	s	FILTER, CERAMIC 6.700MHZ
CF4	1-760-446-11	s	FILTER, CERAMIC 5.600MHZ
CF200	1-760-445-11	s	FILTER, CERAMIC 4.300MHZ
CF201	1-760-445-11	s	FILTER, CERAMIC 4.300MHZ
CF202	1-760-443-11	s	FILTER, CERAMIC 3.600MHZ
CF203	1-760-443-11	s	FILTER, CERAMIC 3.600MHZ
D1	8-719-820-41	s	DIODE 1SS302
D2	8-719-041-39	s	DIODE KV1470
D3	8-719-820-41	s	DIODE 1SS302
D4	8-719-820-41	s	DIODE 1SS302
D5	8-719-041-39	s	DIODE KV1470
D6	8-719-820-41	s	DIODE 1SS302
D7	8-719-820-41	s	DIODE 1SS302
D8	8-719-041-39	s	DIODE KV1470
D9	8-719-820-41	s	DIODE 1SS302
D10	8-719-041-68	s	DIODE RD3.3UH-T1
D11	8-719-820-41	s	DIODE 1SS302
D12	8-719-041-39	s	DIODE KV1470
D13	8-719-820-41	s	DIODE 1SS302
D16	8-719-404-35	s	DIODE MA141WK
D17	8-719-157-33	s	DIODE RD6.2M-B
D18	8-719-041-68	s	DIODE RD3.3UH-T1
D19	8-759-274-67	s	IC LM4040BIM3X-5.0
D20	8-719-041-68	s	DIODE RD3.3UH-T1
D21	8-719-041-68	s	DIODE RD3.3UH-T1
D200	8-719-024-81	s	DIODE 1SS300-TE85L
D201	8-719-029-67	s	DIODE RD5.6UJN-T1
D202	8-719-159-85	s	DIODE RD2.0MB
D203	8-719-159-85	s	DIODE RD2.0MB
FL200	1-239-942-11	s	FILTER, LOW-PASS
FL201	1-239-941-11	s	FILTER, BAND PASS 3.0MHZ
FL202	1-239-940-11	s	FILTER, BAND PASS 2.5MHZ
IC1	8-759-085-67	s	IC LM339NS
IC2	8-759-209-15	s	IC TC4SU69F
IC3	8-759-008-88	s	IC MC14020BF
IC4	8-759-209-90	s	IC TC4S71F
IC5	8-759-209-90	s	IC TC4S71F
IC6	8-759-008-87	s	IC MC14018BF
IC7	8-759-260-55	s	IC TLC272CPW-E05
IC8	8-759-209-90	s	IC TC4S71F
IC200	8-759-271-14	s	IC TA8129Z
IC201	8-759-075-70	s	IC TA75S393F

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Ref. No. or Q'ty	Part No.	SP Description
IC202	8-759-271-14	s IC TA8129Z
IC204	8-759-260-55	s IC TLC272CPW-E05
IC205	8-759-082-61	s IC TC4W53FU
IC206	8-759-811-40	s IC LA1140
IC207	8-759-811-40	s IC LA1140
L1	1-412-029-11	s INDUCTOR CHIP 10uH
L2	1-412-029-11	s INDUCTOR CHIP 10uH
L3	1-412-029-11	s INDUCTOR CHIP 10uH
L4	1-412-029-11	s INDUCTOR CHIP 10uH
L6	1-412-029-11	s INDUCTOR CHIP 10uH
L200	1-412-029-11	s INDUCTOR CHIP 10uH
L201	1-412-029-11	s INDUCTOR CHIP 10uH
L202	1-412-029-11	s INDUCTOR CHIP 10uH
L203	1-412-029-11	s INDUCTOR CHIP 10uH
L204	1-410-146-11	s INDUCTOR 22uH
L205	1-410-154-11	s INDUCTOR 100uH
L206	1-412-029-11	s INDUCTOR CHIP 10uH
L207	1-410-146-11	s INDUCTOR 22uH
L208	1-410-154-11	s INDUCTOR 100uH
L209	1-412-029-11	s INDUCTOR CHIP 10uH
LV1	1-409-825-11	s COIL, VAR
LV2	1-409-825-11	s COIL, VAR
LV3	1-409-825-11	s COIL, VAR
LV4	1-409-826-11	s COIL, VAR
LV200	1-409-827-11	s COIL, VAR
LV201	1-409-827-11	s COIL, VAR
Q1	8-729-117-32	s TRANSISTOR 2SC4177
Q3	8-729-117-32	s TRANSISTOR 2SC4177
Q4	8-729-117-32	s TRANSISTOR 2SC4177
Q6	8-729-117-32	s TRANSISTOR 2SC4177
Q7	8-729-200-87	s TRANSISTOR 2SC2714Y
Q8	8-729-122-63	s TRANSISTOR 2SA1226
Q9	8-729-200-87	s TRANSISTOR 2SC2714Y
Q10	8-729-122-63	s TRANSISTOR 2SA1226
Q11	8-729-200-87	s TRANSISTOR 2SC2714Y
Q12	8-729-122-63	s TRANSISTOR 2SA1226
Q13	8-729-117-32	s TRANSISTOR 2SC4177
Q15	8-729-117-32	s TRANSISTOR 2SC4177
Q16	8-729-200-87	s TRANSISTOR 2SC2714Y
Q17	8-729-117-32	s TRANSISTOR 2SC4177
Q18	8-729-117-16	s TRANSISTOR 2SA1611-M6
Q19	8-729-117-16	s TRANSISTOR 2SA1611-M6
Q20	8-729-117-32	s TRANSISTOR 2SC4177
Q21	8-729-117-32	s TRANSISTOR 2SC4177
Q22	8-729-117-16	s TRANSISTOR 2SA1611-M6
Q23	8-729-928-81	s TRANSISTOR DTC144EE
Q24	8-729-928-81	s TRANSISTOR DTC144EE
Q25	8-729-928-81	s TRANSISTOR DTC144EE
Q135	8-729-928-81	s TRANSISTOR DTC144EE
Q136	8-729-141-48	s TRANSISTOR 2SB624-BV345
Q137	8-729-928-81	s TRANSISTOR DTC144EE
Q139	8-729-141-48	s TRANSISTOR 2SB624-BV345
Q141	8-729-117-32	s TRANSISTOR 2SC4177
Q142	8-729-117-32	s TRANSISTOR 2SC4177
Q143	8-729-117-32	s TRANSISTOR 2SC4177
Q144	8-729-928-81	s TRANSISTOR DTC144EE
Q200	8-729-200-87	s TRANSISTOR 2SC2714Y
Q201	8-729-117-32	s TRANSISTOR 2SC4177

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Ref. No. or Q'ty	Part No.	SP Description
Q202	8-729-117-32	s TRANSISTOR 2SC4177
Q203	8-729-928-81	s TRANSISTOR DTC144EE
Q204	8-729-026-31	s TRANSISTOR XP6435
Q205	8-729-117-32	s TRANSISTOR 2SC4177
Q206	8-729-026-31	s TRANSISTOR XP6435
Q207	8-729-117-32	s TRANSISTOR 2SC4177
R1	1-216-817-11	s METAL, CHIP 470 5% 1/16W
R2	1-216-845-11	s METAL, CHIP 100K 5% 1/16W
R3	1-218-720-11	s METAL 15K 0.50% 1/16W
R4	1-218-724-11	s CHIP, METAL 22K 5% 1/16W
R5	1-216-829-11	s METAL, CHIP 4.7K 5% 1/16W
R6	1-218-724-11	s CHIP, METAL 22K 5% 1/16W
R7	1-218-724-11	s CHIP, METAL 22K 5% 1/16W
R8	1-218-717-11	s CHIP, METAL 11K 0.50% 1/16W
R9	1-218-688-11	s METAL 680 0.50% 1/16W
R10	1-216-825-11	s METAL, CHIP 2.2K 5% 1/16W
R15	1-216-839-11	s METAL, CHIP 33K 5% 1/16W
R16	1-216-843-11	s METAL, CHIP 68K 5% 1/16W
R17	1-216-827-11	s METAL, CHIP 3.3K 5% 1/16W
R18	1-216-809-11	s METAL, CHIP 100 5% 1/16W
R19	1-216-817-11	s METAL, CHIP 470 5% 1/16W
R20	1-216-817-11	s METAL, CHIP 470 5% 1/16W
R21	1-216-845-11	s METAL, CHIP 100K 5% 1/16W
R22	1-216-826-11	s METAL, CHIP 2.7K 5% 1/16W
R23	1-218-720-11	s METAL 15K 0.50% 1/16W
R24	1-218-724-11	s CHIP, METAL 22K 5% 1/16W
R25	1-218-724-11	s CHIP, METAL 22K 5% 1/16W
R26	1-218-724-11	s CHIP, METAL 22K 5% 1/16W
R27	1-218-873-11	s CHIP, METAL 12K 0.50% 1/16W
R28	1-218-688-11	s METAL 680 0.50% 1/16W
R29	1-216-825-11	s METAL, CHIP 2.2K 5% 1/16W
R34	1-216-839-11	s METAL, CHIP 33K 5% 1/16W
R35	1-216-843-11	s METAL, CHIP 68K 5% 1/16W
R36	1-216-829-11	s METAL, CHIP 4.7K 5% 1/16W
R37	1-216-809-11	s METAL, CHIP 100 5% 1/16W
R38	1-218-684-11	s CHIP, METAL 470 0.50% 1/16W
R39	1-218-684-11	s CHIP, METAL 470 0.50% 1/16W
R40	1-218-684-11	s CHIP, METAL 470 0.50% 1/16W
R41	1-218-684-11	s CHIP, METAL 470 0.50% 1/16W
R42	1-218-842-11	s CHIP, METAL 620 0.50% 1/16W
R43	1-218-874-11	s CHIP, METAL 13K 0.50% 1/16W
R44	1-216-818-11	s METAL, CHIP 560 5% 1/16W
R45	1-218-724-11	s CHIP, METAL 22K 5% 1/16W
R46	1-218-700-11	s METAL 2.2K 0.50% 1/16W
R47	1-218-692-11	s CHIP, METAL 1K 0.50% 1/16W
R48	1-216-825-11	s METAL, CHIP 2.2K 5% 1/16W
R49	1-216-793-11	s METAL 4.7 5% 1/16W
R50	1-216-793-11	s METAL 4.7 5% 1/16W
R51	1-247-804-11	s CARBON 75 5% 1/4W
R52	1-216-817-11	s METAL, CHIP 470 5% 1/16W
R53	1-216-845-11	s METAL, CHIP 100K 5% 1/16W
R54	1-216-826-11	s METAL, CHIP 2.7K 5% 1/16W
R55	1-218-724-11	s CHIP, METAL 22K 5% 1/16W
R56	1-218-724-11	s CHIP, METAL 22K 5% 1/16W
R57	1-218-873-11	s CHIP, METAL 12K 0.50% 1/16W
R58	1-218-688-11	s METAL 680 0.50% 1/16W
R59	1-216-825-11	s METAL, CHIP 2.2K 5% 1/16W
R64	1-216-839-11	s METAL, CHIP 33K 5% 1/16W

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Ref. No. or Q'ty	Part No.	SP	Description
R65	1-216-843-11	s	METAL, CHIP 68K 5% 1/16W
R66	1-216-828-11	s	METAL, CHIP 3.9K 5% 1/16W
R67	1-216-809-11	s	METAL, CHIP 100 5% 1/16W
R68	1-218-684-11	s	CHIP, METAL 470 0.50% 1/16W
R69	1-216-823-11	s	METAL, CHIP 1.5K 5% 1/16W
R70	1-216-827-11	s	METAL, CHIP 3.3K 5% 1/16W
R71	1-216-815-11	s	METAL, CHIP 330 5% 1/16W
R72	1-218-716-11	s	METAL 10K 0.50% 1/16W
R73	1-218-700-11	s	METAL 2.2K 0.50% 1/16W
R74	1-216-857-11	s	METAL, CHIP 1M 5% 1/16W
R75	1-216-837-11	s	METAL, CHIP 22K 5% 1/16W
R76	1-216-837-11	s	METAL, CHIP 22K 5% 1/16W
R77	1-216-833-11	s	METAL, CHIP 10K 5% 1/16W
R78	1-216-834-11	s	METAL, CHIP 12K 5% 1/16W
R79	1-216-833-11	s	METAL, CHIP 10K 5% 1/16W
R80	1-216-829-11	s	METAL, CHIP 4.7K 5% 1/16W
R81	1-216-863-11	s	METAL 3.3M 5% 1/16W
R82	1-216-851-11	s	METAL, CHIP 330K 5% 1/16W
R83	1-216-845-11	s	METAL, CHIP 100K 5% 1/16W
R84	1-216-843-11	s	METAL, CHIP 68K 5% 1/16W
R85	1-216-850-11	s	METAL, CHIP 270K 5% 1/16W
R86	1-218-717-11	s	CHIP, METAL 11K 0.50% 1/16W
R87	1-216-821-11	s	METAL, CHIP 1K 5% 1/16W
R88	1-216-833-11	s	METAL, CHIP 10K 5% 1/16W
R89	1-218-722-11	s	CHIP, METAL 18K 0.50% 1/16W
R90	1-218-901-11	s	CHIP, METAL 180K 0.50% 1/16W
R91	1-218-716-11	s	METAL 10K 0.50% 1/16W
R92	1-218-700-11	s	METAL 2.2K 0.50% 1/16W
R93	1-218-720-11	s	METAL 15K 0.50% 1/16W
R94	1-216-845-11	s	METAL, CHIP 100K 5% 1/16W
R95	1-218-724-11	s	CHIP, METAL 22K 5% 1/16W
R96	1-218-724-11	s	CHIP, METAL 22K 5% 1/16W
R97	1-218-724-11	s	CHIP, METAL 22K 5% 1/16W
R98	1-218-874-11	s	CHIP, METAL 13K 0.50% 1/16W
R99	1-218-688-11	s	METAL 680 0.50% 1/16W
R100	1-216-839-11	s	METAL, CHIP 33K 5% 1/16W
R101	1-216-825-11	s	METAL, CHIP 2.2K 5% 1/16W
R102	1-216-843-11	s	METAL, CHIP 68K 5% 1/16W
R103	1-216-830-11	s	METAL, CHIP 5.6K 5% 1/16W
R104	1-218-842-11	s	CHIP, METAL 620 0.50% 1/16W
R108	1-216-815-11	s	METAL, CHIP 330 5% 1/16W
R110	1-216-833-11	s	METAL, CHIP 10K 5% 1/16W
R111	1-216-845-11	s	METAL, CHIP 100K 5% 1/16W
R112	1-216-847-11	s	METAL, CHIP 150K 5% 1/16W
R113	1-216-833-11	s	METAL, CHIP 10K 5% 1/16W
R114	1-216-845-11	s	METAL, CHIP 100K 5% 1/16W
R115	1-216-843-11	s	METAL, CHIP 68K 5% 1/16W
R116	1-216-837-11	s	METAL, CHIP 22K 5% 1/16W
R117	1-216-857-11	s	METAL, CHIP 1M 5% 1/16W
R118	1-216-841-11	s	METAL, CHIP 47K 5% 1/16W
R119	1-216-821-11	s	METAL, CHIP 1K 5% 1/16W
R120	1-216-833-11	s	METAL, CHIP 10K 5% 1/16W
R123	1-216-845-11	s	METAL, CHIP 100K 5% 1/16W
R124	1-216-845-11	s	METAL, CHIP 100K 5% 1/16W
R125	1-216-837-11	s	METAL, CHIP 22K 5% 1/16W
R126	1-216-841-11	s	METAL, CHIP 47K 5% 1/16W
R127	1-216-821-11	s	METAL, CHIP 1K 5% 1/16W
R128	1-216-821-11	s	METAL, CHIP 1K 5% 1/16W
R129	1-216-821-11	s	METAL, CHIP 1K 5% 1/16W

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Ref. No. or Q'ty	Part No.	SP	Description
R131	1-216-833-11	s	METAL, CHIP 10K 5% 1/16W
R133	1-216-809-11	s	METAL, CHIP 100 5% 1/16W
R134	1-216-841-11	s	METAL, CHIP 47K 5% 1/16W
R200	1-218-692-11	s	CHIP, METAL 1K 0.50% 1/16W
R201	1-218-694-11	s	CHIP, METAL 1.2K 0.50% 1/16W
R202	1-216-837-11	s	METAL, CHIP 22K 5% 1/16W
R203	1-216-829-11	s	METAL, CHIP 4.7K 5% 1/16W
R204	1-216-829-11	s	METAL, CHIP 4.7K 5% 1/16W
R205	1-216-822-11	s	METAL, CHIP 1.2K 5% 1/16W
R206	1-216-823-11	s	METAL, CHIP 1.5K 5% 1/16W
R207	1-218-692-11	s	CHIP, METAL 1K 0.50% 1/16W
R208	1-218-692-11	s	CHIP, METAL 1K 0.50% 1/16W
R209	1-216-833-11	s	METAL, CHIP 10K 5% 1/16W
R210	1-216-822-11	s	METAL, CHIP 1.2K 5% 1/16W
R212	1-216-833-11	s	METAL, CHIP 10K 5% 1/16W
R213	1-216-829-11	s	METAL, CHIP 4.7K 5% 1/16W
R214	1-218-722-11	s	CHIP, METAL 18K 0.50% 1/16W
R215	1-216-824-11	s	METAL, CHIP 1.8K 5% 1/16W
R216	1-216-834-11	s	METAL, CHIP 12K 5% 1/16W
R217	1-216-824-11	s	METAL, CHIP 1.8K 5% 1/16W
R218	1-218-864-11	s	CHIP, METAL 5.1K 0.50% 1/16W
R219	1-218-864-11	s	CHIP, METAL 5.1K 0.50% 1/16W
R220	1-216-833-11	s	METAL, CHIP 10K 5% 1/16W
R221	1-216-841-11	s	METAL, CHIP 47K 5% 1/16W
R222	1-216-833-11	s	METAL, CHIP 10K 5% 1/16W
R223	1-216-833-11	s	METAL, CHIP 10K 5% 1/16W
R224	1-216-841-11	s	METAL, CHIP 47K 5% 1/16W
R225	1-216-833-11	s	METAL, CHIP 10K 5% 1/16W
R226	1-218-723-11	s	METAL 20K 0.50% 1/16W
R227	1-218-692-11	s	CHIP, METAL 1K 0.50% 1/16W
R228	1-218-692-11	s	CHIP, METAL 1K 0.50% 1/16W
R229	1-216-822-11	s	METAL, CHIP 1.2K 5% 1/16W
R231	1-216-833-11	s	METAL, CHIP 10K 5% 1/16W
R232	1-216-829-11	s	METAL, CHIP 4.7K 5% 1/16W
R233	1-216-836-11	s	METAL, CHIP 18K 5% 1/16W
R234	1-216-822-11	s	METAL, CHIP 1.2K 5% 1/16W
R235	1-216-834-11	s	METAL, CHIP 12K 5% 1/16W
R236	1-216-824-11	s	METAL, CHIP 1.8K 5% 1/16W
R237	1-216-840-11	s	METAL, CHIP 39K 5% 1/16W
R238	1-216-839-11	s	METAL, CHIP 33K 5% 1/16W
R239	1-216-833-11	s	METAL, CHIP 10K 5% 1/16W
R240	1-216-833-11	s	METAL, CHIP 10K 5% 1/16W
R241	1-216-827-11	s	METAL, CHIP 3.3K 5% 1/16W
R242	1-216-841-11	s	METAL, CHIP 47K 5% 1/16W
R243	1-216-841-11	s	METAL, CHIP 47K 5% 1/16W
R244	1-218-692-11	s	METAL, CHIP 1K 0.50% 1/16W
R245	1-216-845-11	s	METAL, CHIP 100K 5% 1/16W
R246	1-218-692-11	s	CHIP, METAL 1K 0.50% 1/16W
R248	1-216-839-11	s	METAL, CHIP 33K 5% 1/16W
R249	1-216-839-11	s	METAL, CHIP 33K 5% 1/16W
R250	1-218-692-11	s	CHIP, METAL 1K 0.50% 1/16W
R251	1-216-823-11	s	METAL, CHIP 1.5K 5% 1/16W
R254	1-218-710-11	s	CHIP, METAL 5.6K 0.50% 1/16W
R255	1-218-724-11	s	CHIP, METAL 22K 5% 1/16W
R256	1-218-700-11	s	METAL 2.2K 0.50% 1/16W
R257	1-216-838-11	s	METAL, CHIP 27K 5% 1/16W
R258	1-216-836-11	s	METAL, CHIP 18K 5% 1/16W
R259	1-216-833-11	s	METAL, CHIP 10K 5% 1/16W

(TR-90 BOARD)

Ref. No. or Q'ty	Part No.	SP Description
R260	1-216-825-11	s METAL, CHIP 2.2K 5% 1/16W
R261	1-216-837-11	s METAL, CHIP 22K 5% 1/16W
R262	1-216-823-11	s METAL, CHIP 1.5K 5% 1/16W
R263	1-216-839-11	s METAL, CHIP 33K 5% 1/16W
R264	1-216-840-11	s METAL, CHIP 39K 5% 1/16W
R265	1-216-831-11	s METAL, CHIP 6.8K 5% 1/16W
R266	1-218-692-11	s CHIP, METAL 1K 0.50% 1/16W
R268	1-216-839-11	s METAL, CHIP 33K 5% 1/16W
R269	1-216-839-11	s METAL, CHIP 33K 5% 1/16W
R270	1-218-692-11	s CHIP, METAL 1K 0.50% 1/16W
R271	1-216-823-11	s METAL, CHIP 1.5K 5% 1/16W
R274	1-218-710-11	s CHIP, METAL 5.6K 0.50% 1/16W
R275	1-218-724-11	s CHIP, METAL 22K 5% 1/16W
R276	1-218-700-11	s METAL 2.2K 0.50% 1/16W
R277	1-216-838-11	s METAL, CHIP 27K 5% 1/16W
R278	1-216-836-11	s METAL, CHIP 18K 5% 1/16W
R279	1-216-833-11	s METAL, CHIP 10K 5% 1/16W
R280	1-216-825-11	s METAL, CHIP 2.2K 5% 1/16W
R281	1-216-837-11	s METAL, CHIP 22K 5% 1/16W
R282	1-216-823-11	s METAL, CHIP 1.5K 5% 1/16W
R283	1-216-839-11	s METAL, CHIP 33K 5% 1/16W
R284	1-216-840-11	s METAL, CHIP 39K 5% 1/16W
R285	1-216-831-11	s METAL, CHIP 6.8K 5% 1/16W
R306	1-216-809-11	s METAL, CHIP 100 5% 1/16W
R307	1-216-809-11	s METAL, CHIP 100 5% 1/16W
R311	1-218-724-11	s CHIP, METAL 22K 5% 1/16W
R312	1-216-841-11	s METAL, CHIP 47K 5% 1/16W
R317	1-216-841-11	s METAL, CHIP 47K 5% 1/16W
R318	1-218-889-11	s CHIP, METAL 56K 0.50% 1/16W
R319	1-216-837-11	s METAL, CHIP 22K 5% 1/16W
R320	1-216-837-11	s METAL, CHIP 22K 5% 1/16W
R321	1-216-837-11	s METAL, CHIP 22K 5% 1/16W
R350	1-216-833-11	s METAL, CHIP 10K 5% 1/16W
R351	1-216-809-11	s METAL, CHIP 100 5% 1/16W
R352	1-216-833-11	s METAL, CHIP 10K 5% 1/16W
R353	1-216-809-11	s METAL, CHIP 100 5% 1/16W
R354	1-216-857-11	s METAL, CHIP 1M 5% 1/16W
R355	1-216-857-11	s METAL, CHIP 1M 5% 1/16W
R356	1-216-833-11	s METAL, CHIP 10K 5% 1/16W
R357	1-216-837-11	s METAL, CHIP 22K 5% 1/16W
R400	1-218-724-11	s CHIP, METAL 22K 5% 1/16W
R401	1-218-889-11	s CHIP, METAL 56K 0.50% 1/16W
RV1	1-237-036-11	s RES, ADJ METAL 10K
RV2	1-237-036-11	s RES, ADJ METAL 10K
RV3	1-237-036-11	s RES, ADJ METAL 10K
RV200	1-237-035-11	s RES, ADJ METAL 5K
T200	1-409-833-11	s COIL, TUNING
T201	1-409-832-11	s COIL, TUNING
T202	1-409-829-11	s COIL, TUNING
T203	1-409-828-11	s COIL, TUNING
X1	1-527-997-21	s VIBRATOR, CRYSTAL 32.768kHz

VA-163 BOARD

Ref. No. or Q'ty	Part No.	SP Description
1pc	A-8272-560-A	o MOUNTED CIRCUIT BOARD, VA-163
1pc	3-692-125-02	o PANEL, VA-163 PC BOARD
1pc	3-724-753-01	o RING
6pcs	3-729-061-01	s SCREW (M2X4.5) (TYPE 1)
C1	1-135-216-11	s TANTALUM, CHIP 10uF 20% 10V
C2	1-164-156-11	s CERAMIC 0.1uF 25V
C3	1-164-156-11	s CERAMIC 0.1uF 25V
C4	1-135-216-11	s TANTALUM, CHIP 10uF 20% 10V
C5	1-135-216-11	s TANTALUM, CHIP 10uF 20% 10V
C6	1-135-216-11	s TANTALUM, CHIP 10uF 20% 10V
C7	1-164-156-11	s CERAMIC 0.1uF 25V
C8	1-164-156-11	s CERAMIC 0.1uF 25V
C9	1-135-217-21	s TANTAL 15uF 20% 6.3
C10	1-164-156-11	s CERAMIC 0.1uF 25V
C11	1-135-161-21	s TANTALUM, CHIP 22uF 10% 10V
C12	1-126-391-11	s ELECT 47uF 20% 6.3V
C13	1-135-177-21	s TANTALUM, CHIP 1uF 10% 25V
C14	1-135-177-21	s TANTALUM, CHIP 1uF 10% 25V
C15	1-135-125-21	s TANTAL 33uF 20% 10V
C16	1-135-161-21	s TANTALUM, CHIP 22uF 10% 10V
C17	1-126-391-11	s ELECT 47uF 20% 6.3V
C18	1-164-156-11	s CERAMIC 0.1uF 25V
C19	1-135-177-21	s TANTALUM, CHIP 1uF 10% 25V
C20	1-135-216-11	s TANTALUM, CHIP 10uF 20% 10V
C21	1-164-156-11	s CERAMIC 0.1uF 25V
C22	1-164-156-11	s CERAMIC 0.1uF 25V
C23	1-164-156-11	s CERAMIC 0.1uF 25V
C24	1-135-216-11	s TANTALUM, CHIP 10uF 20% 10V
C25	1-164-156-11	s CERAMIC 0.1uF 25V
C26	1-164-217-11	s CERAMIC 150PF 5% 50V
C27	1-162-927-11	s CERAMIC, CHIP 100PF 5% 50V
C30	1-164-156-11	s CERAMIC 0.1uF 25V
C31	1-162-927-11	s CERAMIC, CHIP 100PF 5% 50V
C32	1-164-156-11	s CERAMIC 0.1uF 25V
C40	1-135-211-11	s TANTALUM, CHIP 6.8uF 20% 6.3V
C41	1-164-156-11	s CERAMIC 0.1uF 25V
C42	1-164-156-11	s CERAMIC 0.1uF 25V
C43	1-164-156-11	s CERAMIC 0.1uF 25V
C44	1-164-156-11	s CERAMIC 0.1uF 25V
C45	1-164-156-11	s CERAMIC 0.1uF 25V
C46	1-135-070-00	s TANTALUM, CHIP 0.1uF 10% 35V
C47	1-162-964-11	s CERAMIC 0.001uF 10% 50V
C48	1-164-156-11	s CERAMIC 0.1uF 25V
C49	1-164-156-11	s CERAMIC 0.1uF 25V
C50	1-135-211-11	s TANTALUM, CHIP 6.8uF 20% 6.3V
C51	1-135-211-11	s TANTALUM, CHIP 6.8uF 20% 6.3V
C52	1-104-559-11	s FILM, CHIP 0.047uF 5% 16V
C53	1-164-315-11	s CERAMIC 470PF 5% 50V
C54	1-164-156-11	s CERAMIC 0.1uF 25V
C55	1-164-156-11	s CERAMIC 0.1uF 25V
C56	1-135-177-21	s TANTALUM, CHIP 1uF 10% 25V
C57	1-135-177-21	s TANTALUM, CHIP 1uF 10% 25V
C58	1-135-177-21	s TANTALUM, CHIP 1uF 10% 25V
C59	1-164-156-11	s CERAMIC 0.1uF 25V
C60	1-164-156-11	s CERAMIC 0.1uF 25V
C61	1-164-156-11	s CERAMIC 0.1uF 25V
C62	1-164-156-11	s CERAMIC 0.1uF 25V
C63	1-164-156-11	s CERAMIC 0.1uF 25V
C64	1-164-156-11	s CERAMIC 0.1uF 25V

(VA-163 BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
C65	1-135-217-21	s	TANTAL 15uF 20% 6.3
C66	1-135-217-21	s	TANTAL 15uF 20% 6.3
C67	1-135-217-21	s	TANTAL 15uF 20% 6.3
C68	1-164-156-11	s	CERAMIC 0.1uF 25V
C69	1-135-217-21	s	TANTAL 15uF 20% 6.3
C70	1-135-217-21	s	TANTAL 15uF 20% 6.3
C71	1-135-217-21	s	TANTAL 15uF 20% 6.3
C72	1-164-156-11	s	CERAMIC 0.1uF 25V
C73	1-162-918-11	s	CERAMIC, CHIP 18PF 5% 50V
C124	1-107-685-11	s	TANTALUM 15uF 20% 6.3V
C125	1-107-685-11	s	TANTALUM 15uF 20% 6.3V
C200	1-135-214-21	s	TANTAL 4.7uF 20% 20V
C201	1-164-156-11	s	CERAMIC 0.1uF 25V
C202	1-135-165-11	s	TANTALUM, CHIP 33uF 10% 16V
C203	1-164-156-11	s	CERAMIC 0.1uF 25V
C204	1-135-157-21	s	TANTAL 10uF 10% 6.3V
C205	1-164-156-11	s	CERAMIC 0.1uF 25V
C207	1-162-920-11	s	CERAMIC, CHIP 27PF 5% 50V
C208	1-126-392-11	s	ELECT, CHIP 100uF 20% 6.3V
C209	1-162-908-11	s	CERAMIC 3PF 0.25PF 50V
C211	1-135-177-21	s	TANTALUM, CHIP 1uF 10% 25V
C212	1-164-156-11	s	CERAMIC 0.1uF 25V
C214	1-135-177-21	s	TANTALUM, CHIP 1uF 10% 25V
C215	1-135-177-21	s	TANTALUM, CHIP 1uF 10% 25V
C216	1-164-156-11	s	CERAMIC 0.1uF 25V
C217	1-162-909-11	s	CERAMIC 4PF 0.25PF 50V
C218	1-164-156-11	s	CERAMIC 0.1uF 25V
C219	1-164-156-11	s	CERAMIC 0.1uF 25V
C220	1-164-156-11	s	CERAMIC 0.1uF 25V
C221	1-164-156-11	s	CERAMIC 0.1uF 25V
C223	1-164-156-11	s	CERAMIC 0.1uF 25V
C224	1-104-608-11	s	ELECT 33uF 20% 6.3V
C225	1-135-217-21	s	TANTAL 15uF 20% 6.3
C226	1-135-217-21	s	TANTAL 15uF 20% 6.3
C227	1-164-156-11	s	CERAMIC 0.1uF 25V
C228	1-135-162-21	s	TANTALUM, CHIP 33uF 10% 6.3V
C229	1-135-157-21	s	TANTAL 10uF 10% 6.3V
C230	1-135-177-21	s	TANTALUM, CHIP 1uF 10% 25V
C231	1-135-177-21	s	TANTALUM, CHIP 1uF 10% 25V
C232	1-135-161-21	s	TANTALUM, CHIP 22uF 10% 10V
C233	1-164-156-11	s	CERAMIC 0.1uF 25V
C234	1-164-156-11	s	CERAMIC 0.1uF 25V
C235	1-164-156-11	s	CERAMIC 0.1uF 25V
C236	1-164-156-11	s	CERAMIC 0.1uF 25V
C237	1-164-156-11	s	CERAMIC 0.1uF 25V
C238	1-135-177-21	s	TANTALUM, CHIP 1uF 10% 25V
C239	1-135-177-21	s	TANTALUM, CHIP 1uF 10% 25V
C240	1-162-924-11	s	CERAMIC 56PF 5% 50V
C242	1-135-092-21	s	TANTALUM, CHIP 3.3uF 10% 16V
C243	1-135-210-11	s	TANTALUM 4.7uF 10% 10V
C259	1-135-177-21	s	TANTALUM, CHIP 1uF 10% 25V
C300	1-135-214-21	s	TANTAL 4.7uF 20% 20V
C301	1-164-156-11	s	CERAMIC 0.1uF 25V
C302	1-135-165-11	s	TANTALUM, CHIP 33uF 10% 16V
C303	1-164-156-11	s	CERAMIC 0.1uF 25V
C304	1-135-157-21	s	TANTAL 10uF 10% 6.3V
C305	1-164-156-11	s	CERAMIC 0.1uF 25V
C307	1-162-920-11	s	CERAMIC, CHIP 27PF 5% 50V
C308	1-126-392-11	s	ELECT, CHIP 100uF 20% 6.3V

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Ref. No. or Q'ty	Part No.	SP	Description
C309	1-162-908-11	s	CERAMIC 3PF 0.25PF 50V
C311	1-135-177-21	s	TANTALUM, CHIP 1uF 10% 25V
C312	1-164-156-11	s	CERAMIC 0.1uF 25V
C314	1-135-177-21	s	TANTALUM, CHIP 1uF 10% 25V
C315	1-135-177-21	s	TANTALUM, CHIP 1uF 10% 25V
C316	1-164-156-11	s	CERAMIC 0.1uF 25V
C317	1-162-909-11	s	CERAMIC 4PF 0.25PF 50V
C318	1-164-156-11	s	CERAMIC 0.1uF 25V
C319	1-164-156-11	s	CERAMIC 0.1uF 25V
C320	1-164-156-11	s	CERAMIC 0.1uF 25V
C321	1-164-156-11	s	CERAMIC 0.1uF 25V
C323	1-164-156-11	s	CERAMIC 0.1uF 25V
C324	1-104-608-11	s	ELECT 33uF 20% 6.3V
C325	1-135-217-21	s	TANTAL 15uF 20% 6.3
C326	1-135-217-21	s	TANTAL 15uF 20% 6.3
C327	1-164-156-11	s	CERAMIC 0.1uF 25V
C328	1-135-162-21	s	TANTALUM, CHIP 33uF 10% 6.3V
C329	1-135-157-21	s	TANTAL 10uF 10% 6.3V
C330	1-135-177-21	s	TANTALUM, CHIP 1uF 10% 25V
C331	1-135-177-21	s	TANTALUM, CHIP 1uF 10% 25V
C332	1-104-852-11	s	TANTALUM, CHIP 22uF 20% 10V
C333	1-164-156-11	s	CERAMIC 0.1uF 25V
C334	1-164-156-11	s	CERAMIC 0.1uF 25V
C335	1-164-156-11	s	CERAMIC 0.1uF 25V
C336	1-164-156-11	s	CERAMIC 0.1uF 25V
C337	1-164-156-11	s	CERAMIC 0.1uF 25V
C338	1-135-177-21	s	TANTALUM, CHIP 1uF 10% 25V
C339	1-135-177-21	s	TANTALUM, CHIP 1uF 10% 25V
C340	1-162-924-11	s	CERAMIC 56PF 5% 50V
C342	1-135-092-21	s	TANTALUM, CHIP 3.3uF 10% 16V
C343	1-135-210-11	s	TANTALUM 4.7uF 10% 10V
C359	1-135-177-21	s	TANTALUM, CHIP 1uF 10% 25V
C400	1-135-214-21	s	TANTAL 4.7uF 20% 20V
C401	1-164-156-11	s	CERAMIC 0.1uF 25V
C402	1-135-165-11	s	TANTALUM, CHIP 33uF 10% 16V
C403	1-164-156-11	s	CERAMIC 0.1uF 25V
C404	1-135-157-21	s	TANTAL 10uF 10% 6.3V
C405	1-164-156-11	s	CERAMIC 0.1uF 25V
C407	1-162-920-11	s	CERAMIC, CHIP 27PF 5% 50V
C408	1-126-392-11	s	ELECT, CHIP 100uF 20% 6.3V
C409	1-162-908-11	s	CERAMIC 3PF 0.25PF 50V
C411	1-135-177-21	s	TANTALUM, CHIP 1uF 10% 25V
C412	1-164-156-11	s	CERAMIC 0.1uF 25V
C414	1-135-177-21	s	TANTALUM, CHIP 1uF 10% 25V
C415	1-135-177-21	s	TANTALUM, CHIP 1uF 10% 25V
C416	1-164-156-11	s	CERAMIC 0.1uF 25V
C417	1-162-909-11	s	CERAMIC 4PF 0.25PF 50V
C418	1-164-156-11	s	CERAMIC 0.1uF 25V
C419	1-164-156-11	s	CERAMIC 0.1uF 25V
C420	1-164-156-11	s	CERAMIC 0.1uF 25V
C421	1-164-156-11	s	CERAMIC 0.1uF 25V
C423	1-164-156-11	s	CERAMIC 0.1uF 25V
C424	1-104-608-11	s	ELECT 33uF 20% 6.3V
C425	1-135-217-21	s	TANTAL 15uF 20% 6.3
C426	1-135-217-21	s	TANTAL 15uF 20% 6.3
C427	1-164-156-11	s	CERAMIC 0.1uF 25V
C428	1-135-162-21	s	TANTALUM, CHIP 33uF 10% 6.3V
C429	1-135-157-21	s	TANTAL 10uF 10% 6.3V
C430	1-135-177-21	s	TANTALUM, CHIP 1uF 10% 25V

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Ref. No. or Q'ty	Part No.	SP Description
C431	1-135-177-21	s TANTALUM, CHIP 1uF 10% 25V
C432	1-104-852-11	s TANTALUM, CHIP 22uF 20% 10V
C433	1-164-156-11	s CERAMIC 0.1uF 25V
C434	1-164-156-11	s CERAMIC 0.1uF 25V
C435	1-164-156-11	s CERAMIC 0.1uF 25V
C436	1-164-156-11	s CERAMIC 0.1uF 25V
C437	1-164-156-11	s CERAMIC 0.1uF 25V
C438	1-135-177-21	s TANTALUM, CHIP 1uF 10% 25V
C439	1-135-177-21	s TANTALUM, CHIP 1uF 10% 25V
C440	1-162-924-11	s CERAMIC 56PF 5% 50V
C442	1-135-092-21	s TANTALUM, CHIP 3.3uF 10% 16V
C443	1-135-210-11	s TANTALUM 4.7uF 10% 10V
C459	1-135-177-21	s TANTALUM, CHIP 1uF 10% 25V
CT200	1-141-311-11	s CAP, VAR, TRIMMER
CT300	1-141-311-11	s CAP, VAR, TRIMMER
CT400	1-141-311-11	s CAP, VAR, TRIMMER
D1	8-719-029-63	s DIODE RD4.3UH-T1
D2	8-719-029-63	s DIODE RD4.3UH-T1
D3	8-719-029-63	s DIODE RD4.3UH-T1
D4	8-719-029-63	s DIODE RD4.3UH-T1
D5	8-719-820-41	s DIODE 1SS302
D7	8-719-974-76	s DIODE HSM107S
D8	8-719-820-41	s DIODE 1SS302
D9	8-719-820-41	s DIODE 1SS302
D10	8-719-820-41	s DIODE 1SS302
FL200	1-402-639-11	s FILTER, TRAP
FL300	1-402-639-11	s FILTER, TRAP
FL400	1-402-639-11	s FILTER, TRAP
IC1	8-759-076-06	s IC TL064CPW
IC3	8-759-066-68	s IC REF-03GS
IC5	8-759-180-08	s IC TC74HC4538AFS
IC6	8-759-175-02	s IC TL074CPW-ELM1000
IC7	8-759-058-64	s IC TC7S32FU(TE85R)
IC8	8-759-082-60	s IC TC7S66FU
IC9	8-759-085-67	s IC LM339NS
IC10	8-759-058-58	s IC TC7S04FU(TE85R)
IC11	8-759-058-58	s IC TC7S04FU(TE85R)
IC12	8-759-175-02	s IC TL074CPW-ELM1000
IC13	8-759-082-60	s IC TC7S66FU
IC14	8-759-082-60	s IC TC7S66FU
IC15	8-759-076-06	s IC TL064CPW
IC16	8-759-326-65	s IC MP7670AS-TE2
IC17	8-759-066-59	s IC TC74HC4053AFS
IC18	8-759-326-65	s IC MP7670AS-TE2
IC19	8-759-175-02	s IC TL074CPW-ELM1000
IC20	8-759-237-79	s IC TC74HC595AF(EL)
IC21	8-759-064-36	s IC MB88346BPFV
IC22	8-759-066-59	s IC TC74HC4053AFS
IC23	8-759-049-60	s IC SN74HC08APW-E05
IC24	8-759-059-50	s IC MB88351PFV
IC25	8-759-058-58	s IC TC7S04FU(TE85R)
IC26	8-759-086-42	s IC X24C02S-3.0-C7000
IC27	8-759-058-62	s IC TC7S08FU(TE85R)
IC200	8-759-076-06	s IC TL064CPW
IC201	8-759-082-61	s IC TC4W53FU
IC202	8-752-068-64	s IC CXA1486Q-TH
IC203	8-759-082-61	s IC TC4W53FU
IC204	8-759-058-62	s IC TC7S08FU(TE85R)

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Ref. No. or Q'ty	Part No.	SP Description
IC300	8-759-076-06	s IC TL064CPW
IC301	8-759-082-61	s IC TC4W53FU
IC302	8-752-068-64	s IC CXA1486Q-TH
IC303	8-759-082-61	s IC TC4W53FU
IC304	8-759-058-62	s IC TC7S08FU(TE85R)
IC400	8-759-076-06	s IC TL064CPW
IC401	8-759-082-61	s IC TC4W53FU
IC402	8-752-068-64	s IC CXA1486Q-TH
IC403	8-759-082-61	s IC TC4W53FU
IC404	8-759-058-62	s IC TC7S08FU(TE85R)
L1	1-410-385-11	s INDUCTOR, CHIP 22uH
L2	1-410-385-11	s INDUCTOR, CHIP 22uH
Q1	8-729-141-48	s TRANSISTOR 2SB624-BV345
Q2	8-729-820-86	s TRANSISTOR 2SB1121-ST
Q3	8-729-141-75	s TRANSISTOR 2SD596DV345
Q4	8-729-117-32	s TRANSISTOR 2SC4177
Q5	8-729-402-78	s TRANSISTOR XN6401
Q7	8-729-141-75	s TRANSISTOR 2SD596DV345
Q10	8-729-402-78	s TRANSISTOR XN6401
Q11	8-729-402-19	s TRANSISTOR XN6501
Q12	8-729-402-19	s TRANSISTOR XN6501
Q13	8-729-402-19	s TRANSISTOR XN6501
Q14	8-729-402-78	s TRANSISTOR XN6401
Q200	8-729-117-16	s TRANSISTOR 2SA1611-M6
Q201	8-729-175-73	s TRANSISTOR 2SC2757
Q202	8-729-122-63	s TRANSISTOR 2SA1226
Q203	8-729-117-16	s TRANSISTOR 2SA1611-M6
Q204	8-729-122-63	s TRANSISTOR 2SA1226
Q205	8-729-122-63	s TRANSISTOR 2SA1226
Q206	8-729-117-73	s TRANSISTOR 2SC4178-F14
Q207	8-729-143-07	s TRANSISTOR 2SA1610-Y33
Q208	8-729-117-32	s TRANSISTOR 2SC4177
Q209	8-729-117-73	s TRANSISTOR 2SC4178-F14
Q210	8-729-117-73	s TRANSISTOR 2SC4178-F14
Q211	8-729-117-73	s TRANSISTOR 2SC4178-F14
Q212	8-729-117-73	s TRANSISTOR 2SC4178-F14
Q213	8-729-117-73	s TRANSISTOR 2SC4178-F14
Q214	8-729-117-73	s TRANSISTOR 2SC4178-F14
Q215	8-729-117-73	s TRANSISTOR 2SC4178-F14
Q216	8-729-117-73	s TRANSISTOR 2SC4178-F14
Q217	8-729-117-73	s TRANSISTOR 2SC4178-F14
Q218	8-729-117-16	s TRANSISTOR 2SA1611-M6
Q219	8-729-402-19	s TRANSISTOR XN6501
Q220	8-729-402-19	s TRANSISTOR XN6501
Q300	8-729-117-16	s TRANSISTOR 2SA1611-M6
Q301	8-729-175-73	s TRANSISTOR 2SC2757
Q302	8-729-122-63	s TRANSISTOR 2SA1226
Q303	8-729-117-16	s TRANSISTOR 2SA1611-M6
Q304	8-729-122-63	s TRANSISTOR 2SA1226
Q305	8-729-122-63	s TRANSISTOR 2SA1226
Q306	8-729-117-73	s TRANSISTOR 2SC4178-F14
Q307	8-729-143-07	s TRANSISTOR 2SA1610-Y33
Q308	8-729-117-32	s TRANSISTOR 2SC4177
Q309	8-729-117-73	s TRANSISTOR 2SC4178-F14
Q310	8-729-117-73	s TRANSISTOR 2SC4178-F14
Q311	8-729-117-73	s TRANSISTOR 2SC4178-F14
Q312	8-729-117-73	s TRANSISTOR 2SC4178-F14
Q313	8-729-117-73	s TRANSISTOR 2SC4178-F14

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Ref. No. or Q'ty	Part No.	SP	Description
Q314	8-729-117-73	s	TRANSISTOR 2SC4178-F14
Q315	8-729-117-73	s	TRANSISTOR 2SC4178-F14
Q316	8-729-117-73	s	TRANSISTOR 2SC4178-F14
Q317	8-729-117-73	s	TRANSISTOR 2SC4178-F14
Q318	8-729-117-16	s	TRANSISTOR 2SA1611-M6
Q319	8-729-402-19	s	TRANSISTOR XN6501
Q320	8-729-402-19	s	TRANSISTOR XN6501
Q400	8-729-117-16	s	TRANSISTOR 2SA1611-M6
Q401	8-729-175-73	s	TRANSISTOR 2SC2757
Q402	8-729-122-63	s	TRANSISTOR 2SA1226
Q403	8-729-117-16	s	TRANSISTOR 2SA1611-M6
Q404	8-729-122-63	s	TRANSISTOR 2SA1226
Q405	8-729-122-63	s	TRANSISTOR 2SA1226
Q406	8-729-117-73	s	TRANSISTOR 2SC4178-F14
Q407	8-729-143-07	s	TRANSISTOR 2SA1610-Y33
Q408	8-729-117-32	s	TRANSISTOR 2SC4177
Q409	8-729-117-73	s	TRANSISTOR 2SC4178-F14
Q410	8-729-117-73	s	TRANSISTOR 2SC4178-F14
Q411	8-729-117-73	s	TRANSISTOR 2SC4178-F14
Q412	8-729-117-73	s	TRANSISTOR 2SC4178-F14
Q413	8-729-117-73	s	TRANSISTOR 2SC4178-F14
Q414	8-729-117-73	s	TRANSISTOR 2SC4178-F14
Q415	8-729-117-73	s	TRANSISTOR 2SC4178-F14
Q416	8-729-117-73	s	TRANSISTOR 2SC4178-F14
Q417	8-729-117-73	s	TRANSISTOR 2SC4178-F14
Q418	8-729-117-16	s	TRANSISTOR 2SA1611-M6
Q419	8-729-402-19	s	TRANSISTOR XN6501
Q420	8-729-402-19	s	TRANSISTOR XN6501
R1	1-218-723-11	s	METAL 20K 0.50% 1/16W
R2	1-216-833-11	s	METAL, CHIP 10K 5% 1/16W
R3	1-218-724-11	s	CHIP, METAL 22K 5% 1/16W
R4	1-218-716-11	s	METAL 10K 0.50% 1/16W
R5	1-218-732-11	s	METAL 47K 0.50% 1/16W
R6	1-218-724-11	s	CHIP, METAL 22K 5% 1/16W
R7	1-218-716-11	s	METAL 10K 0.50% 1/16W
R8	1-218-716-11	s	METAL 10K 0.50% 1/16W
R9	1-216-823-11	s	METAL, CHIP 1.5K 5% 1/16W
R10	1-218-724-11	s	CHIP, METAL 22K 5% 1/16W
R11	1-218-716-11	s	METAL 10K 0.50% 1/16W
R12	1-218-716-11	s	METAL 10K 0.50% 1/16W
R13	1-218-668-11	s	CHIP, METAL 100 0.50% 1/16W
R14	1-216-845-11	s	METAL, CHIP 100K 5% 1/16W
R15	1-216-845-11	s	METAL, CHIP 100K 5% 1/16W
R16	1-216-845-11	s	METAL, CHIP 100K 5% 1/16W
R17	1-216-829-11	s	METAL, CHIP 4.7K 5% 1/16W
R18	1-216-833-11	s	METAL, CHIP 10K 5% 1/16W
R19	1-211-969-11	s	CHIP, METAL 10 0.50% 1/16W
R20	1-218-716-11	s	METAL 10K 0.50% 1/16W
R21	1-216-827-11	s	METAL, CHIP 3.3K 5% 1/16W
R22	1-211-969-11	s	CHIP, METAL 10 0.50% 1/16W
R23	1-218-700-11	s	METAL 2.2K 0.50% 1/16W
R24	1-218-704-11	s	METAL 3.3K 0.50% 1/16W
R25	1-218-716-11	s	METAL 10K 0.50% 1/16W
R26	1-218-700-11	s	METAL 2.2K 0.50% 1/16W
R27	1-218-692-11	s	CHIP, METAL 1K 0.50% 1/16W
R28	1-218-716-11	s	METAL 10K 0.50% 1/16W
R29	1-218-714-11	s	METAL 8.2K 0.50% 1/16W
R30	1-218-716-11	s	METAL 10K 0.50% 1/16W

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Ref. No. or Q'ty	Part No.	SP	Description
R31	1-218-700-11	s	METAL 2.2K 0.50% 1/16W
R35	1-218-668-11	s	CHIP, METAL 100 0.50% 1/16W
R36	1-218-668-11	s	CHIP, METAL 100 0.50% 1/16W
R37	1-218-668-11	s	CHIP, METAL 100 0.50% 1/16W
R38	1-218-692-11	s	CHIP, METAL 1K 0.50% 1/16W
R39	1-216-857-11	s	METAL, CHIP 1M 5% 1/16W
R40	1-218-668-11	s	CHIP, METAL 100 0.50% 1/16W
R41	1-216-809-11	s	METAL, CHIP 100 5% 1/16W
R42	1-218-873-11	s	CHIP, METAL 12K 0.50% 1/16W
R43	1-218-851-11	s	CHIP, METAL 1.5K 0.50% 1/16W
R44	1-218-851-11	s	CHIP, METAL 1.5K 0.50% 1/16W
R45	1-218-851-11	s	CHIP, METAL 1.5K 0.50% 1/16W
R46	1-218-699-11	s	CHIP, METAL 2K 0.50% 1/16W
R47	1-216-833-11	s	METAL, CHIP 10K 5% 1/16W
R48	1-216-833-11	s	METAL, CHIP 10K 5% 1/16W
R49	1-216-833-11	s	METAL, CHIP 10K 5% 1/16W
R50	1-216-833-11	s	METAL, CHIP 10K 5% 1/16W
R51	1-218-692-11	s	CHIP, METAL 1K 0.50% 1/16W
R52	1-218-716-11	s	METAL 10K 0.50% 1/16W
R53	1-218-723-11	s	METAL 20K 0.50% 1/16W
R54	1-218-716-11	s	METAL 10K 0.50% 1/16W
R55	1-218-723-11	s	METAL 20K 0.50% 1/16W
R56	1-218-901-11	s	CHIP, METAL 180K 0.50% 1/16W
R57	1-218-732-11	s	METAL 47K 0.50% 1/16W
R58	1-218-716-11	s	METAL 10K 0.50% 1/16W
R59	1-218-732-11	s	METAL 47K 0.50% 1/16W
R60	1-218-732-11	s	METAL 47K 0.50% 1/16W
R61	1-208-854-11	s	CHIP, METAL 1M 0.50% 1/10W
R62	1-216-853-11	s	METAL, CHIP 470K 5% 1/16W
R63	1-218-883-11	s	METAL 33K 0.50% 1/16W
R64	1-218-883-11	s	METAL 33K 0.50% 1/16W
R65	1-218-699-11	s	CHIP, METAL 2K 0.50% 1/16W
R66	1-218-692-11	s	CHIP, METAL 1K 0.50% 1/16W
R67	1-218-699-11	s	CHIP, METAL 2K 0.50% 1/16W
R68	1-218-692-11	s	CHIP, METAL 1K 0.50% 1/16W
R69	1-218-699-11	s	CHIP, METAL 2K 0.50% 1/16W
R70	1-218-692-11	s	CHIP, METAL 1K 0.50% 1/16W
R71	1-218-883-11	s	METAL 33K 0.50% 1/16W
R72	1-216-864-11	s	METAL, CHIP 0 5% 1/16W
R73	1-216-864-11	s	METAL, CHIP 0 5% 1/16W
R74	1-216-864-11	s	METAL, CHIP 0 5% 1/16W
R75	1-218-883-11	s	METAL 33K 0.50% 1/16W
R76	1-218-883-11	s	METAL 33K 0.50% 1/16W
R77	1-218-883-11	s	METAL 33K 0.50% 1/16W
R78	1-218-708-11	s	METAL 4.7K 0.50% 1/16W
R79	1-218-708-11	s	METAL 4.7K 0.50% 1/16W
R80	1-218-708-11	s	METAL 4.7K 0.50% 1/16W
R81	1-218-708-11	s	METAL 4.7K 0.50% 1/16W
R82	1-218-708-11	s	METAL 4.7K 0.50% 1/16W
R83	1-218-708-11	s	METAL 4.7K 0.50% 1/16W
R84	1-218-883-11	s	METAL 33K 0.50% 1/16W
R85	1-218-883-11	s	METAL 33K 0.50% 1/16W
R86	1-218-883-11	s	METAL 33K 0.50% 1/16W
R87	1-218-883-11	s	METAL 33K 0.50% 1/16W
R88	1-218-883-11	s	METAL 33K 0.50% 1/16W
R89	1-218-883-11	s	METAL 33K 0.50% 1/16W
R90	1-218-883-11	s	METAL 33K 0.50% 1/16W
R91	1-218-716-11	s	METAL 10K 0.50% 1/16W
R92	1-218-716-11	s	METAL 10K 0.50% 1/16W

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Ref. No. or Q'ty	Part No.	SP Description
R93	1-218-716-11	s METAL 10K 0.50% 1/16W
R94	1-218-732-11	s METAL 47K 0.50% 1/16W
R95	1-218-732-11	s METAL 47K 0.50% 1/16W
R96	1-218-732-11	s METAL 47K 0.50% 1/16W
R97	1-218-732-11	s METAL 47K 0.50% 1/16W
R98	1-218-714-11	s METAL 8.2K 0.50% 1/16W
R99	1-218-714-11	s METAL 8.2K 0.50% 1/16W
R100	1-218-699-11	s CHIP, METAL 2K 0.50% 1/16W
R101	1-218-873-11	s CHIP, METAL 12K 0.50% 1/16W
R102	1-218-692-11	s CHIP, METAL 1K 0.50% 1/16W
R103	1-218-886-11	s CHIP, METAL 43K 0.50% 1/16W
R104	1-216-829-11	s METAL, CHIP 4.7K 5% 1/16W
R105	1-216-809-11	s METAL, CHIP 100 5% 1/16W
R106	1-218-708-11	s METAL 4.7K 0.50% 1/16W
R107	1-218-700-11	s METAL 2.2K 0.50% 1/16W
R108	1-218-702-11	s CHIP, METAL 2.7K 0.50% 1/16W
R109	1-218-716-11	s METAL 10K 0.50% 1/16W
R110	1-218-702-11	s CHIP, METAL 2.7K 0.50% 1/16W
R111	1-216-809-11	s METAL, CHIP 100 5% 1/16W
R112	1-218-714-11	s METAL 8.2K 0.50% 1/16W
R113	1-218-668-11	s CHIP, METAL 100 0.50% 1/16W
R114	1-218-723-11	s METAL 20K 0.50% 1/16W
R115	1-218-699-11	s CHIP, METAL 2K 0.50% 1/16W
R116	1-216-845-11	s METAL, CHIP 100K 5% 1/16W
R117	1-218-702-11	s CHIP, METAL 2.7K 0.50% 1/16W
R118	1-216-829-11	s METAL, CHIP 4.7K 5% 1/16W
R120	1-218-704-11	s METAL 3.3K 0.50% 1/16W
R121	1-216-809-11	s METAL, CHIP 100 5% 1/16W
R122	1-216-809-11	s METAL, CHIP 100 5% 1/16W
R123	1-216-809-11	s METAL, CHIP 100 5% 1/16W
R200	1-218-692-11	s CHIP, METAL 1K 0.50% 1/16W
R201	1-218-723-11	s METAL 20K 0.50% 1/16W
R202	1-216-829-11	s METAL, CHIP 4.7K 5% 1/16W
R203	1-216-830-11	s METAL, CHIP 5.6K 5% 1/16W
R204	1-218-727-11	s METAL 30K 0.50% 1/16W
R205	1-218-732-11	s METAL 47K 0.50% 1/16W
R206	1-218-708-11	s METAL 4.7K 0.50% 1/16W
R207	1-218-710-11	s CHIP, METAL 5.6K 0.50% 1/16W
R208	1-218-856-11	s CHIP, METAL 2.4K 0.50% 1/16W
R209	1-218-723-11	s METAL 20K 0.50% 1/16W
R210	1-218-714-11	s METAL 8.2K 0.50% 1/16W
R211	1-211-969-11	s CHIP, METAL 10 0.50% 1/16W
R212	1-218-680-11	s METAL 330 0.50% 1/16W
R213	1-218-851-11	s CHIP, METAL 1.5K 0.50% 1/16W
R214	1-211-969-11	s CHIP, METAL 10 0.50% 1/16W
R215	1-218-680-11	s METAL 330 0.50% 1/16W
R216	1-218-692-11	s CHIP, METAL 1K 0.50% 1/16W
R217	1-216-797-11	s METAL, CHIP 10 5% 1/16W
R218	1-218-717-11	s CHIP, METAL 11K 0.50% 1/16W
R219	1-218-699-11	s CHIP, METAL 2K 0.50% 1/16W
R220	1-218-844-11	s CHIP, METAL 750 0.50% 1/16W
R222	1-218-845-11	s CHIP, METAL 820 0.50% 1/16W
R223	1-216-809-11	s METAL, CHIP 100 5% 1/16W
R224	1-218-710-11	s CHIP, METAL 5.6K 0.50% 1/16W
R225	1-218-883-11	s METAL 33K 0.50% 1/16W
R226	1-218-716-11	s METAL 10K 0.50% 1/16W
R227	1-218-699-11	s CHIP, METAL 2K 0.50% 1/16W
R228	1-218-714-11	s METAL 8.2K 0.50% 1/16W
R229	1-218-699-11	s CHIP, METAL 2K 0.50% 1/16W

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Ref. No. or Q'ty	Part No.	SP Description
R230	1-218-730-11	s CHIP, METAL 39K 0.50% 1/16W
R231	1-216-821-11	s METAL, CHIP 1K 5% 1/16W
R232	1-218-692-11	s CHIP, METAL 1K 0.50% 1/16W
R233	1-218-699-11	s CHIP, METAL 2K 0.50% 1/16W
R234	1-216-809-11	s METAL, CHIP 100 5% 1/16W
R235	1-218-672-11	s METAL 150 0.50% 1/16W
R236	1-218-732-11	s METAL 47K 0.50% 1/16W
R237	1-218-692-11	s CHIP, METAL 1K 0.50% 1/16W
R238	1-218-699-11	s CHIP, METAL 2K 0.50% 1/16W
R239	1-218-723-11	s METAL 20K 0.50% 1/16W
R240	1-218-710-11	s CHIP, METAL 5.6K 0.50% 1/16W
R241	1-218-699-11	s CHIP, METAL 2K 0.50% 1/16W
R242	1-216-809-11	s METAL, CHIP 100 5% 1/16W
R243	1-218-699-11	s CHIP, METAL 2K 0.50% 1/16W
R244	1-218-842-11	s CHIP, METAL 620 0.50% 1/16W
R245	1-218-751-11	s METAL, CHIP 300K 0.50% 1/16
R246	1-218-716-11	s METAL 10K 0.50% 1/16W
R247	1-218-723-11	s METAL 20K 0.50% 1/16W
R248	1-216-825-11	s METAL, CHIP 2.2K 5% 1/16W
R249	1-216-864-11	s METAL, CHIP 0 5% 1/16W
R250	1-216-864-11	s METAL, CHIP 0 5% 1/16W
R251	1-218-740-11	s METAL 100K 0.50% 1/16W
R252	1-218-716-11	s METAL 10K 0.50% 1/16W
R253	1-218-708-11	s METAL 4.7K 0.50% 1/16W
R254	1-216-864-11	s METAL, CHIP 0 5% 1/16W
R255	1-216-833-11	s METAL, CHIP 10K 5% 1/16W
R256	1-218-692-11	s CHIP, METAL 1K 0.50% 1/16W
R257	1-218-858-11	s CHIP, METAL 3K 0.50% 1/16W
R258	1-218-717-11	s CHIP, METAL 11K 0.50% 1/16W
R259	1-218-723-11	s METAL 20K 0.50% 1/16W
R260	1-216-833-11	s METAL, CHIP 10K 5% 1/16W
R261	1-216-833-11	s METAL, CHIP 10K 5% 1/16W
R262	1-218-727-11	s METAL 30K 0.50% 1/16W
R263	1-218-692-11	s CHIP, METAL 1K 0.50% 1/16W
R264	1-218-858-11	s CHIP, METAL 3K 0.50% 1/16W
R265	1-218-723-11	s METAL 20K 0.50% 1/16W
R266	1-218-716-11	s METAL 10K 0.50% 1/16W
R267	1-218-698-11	s METAL 1.8K 0.50% 1/16W
R268	1-218-704-11	s METAL 3.3K 0.50% 1/16W
R269	1-218-692-11	s CHIP, METAL 1K 0.50% 1/16W
R270	1-218-883-11	s METAL 33K 0.50% 1/16W
R271	1-218-740-11	s METAL 100K 0.50% 1/16W
R272	1-216-845-11	s METAL, CHIP 100K 5% 1/16W
R280	1-218-883-11	s METAL 33K 0.50% 1/16W
R281	1-218-708-11	s METAL 4.7K 0.50% 1/16W
R300	1-218-692-11	s CHIP, METAL 1K 0.50% 1/16W
R301	1-218-723-11	s METAL 20K 0.50% 1/16W
R302	1-216-829-11	s METAL, CHIP 4.7K 5% 1/16W
R303	1-216-830-11	s METAL, CHIP 5.6K 5% 1/16W
R304	1-218-710-11	s CHIP, METAL 5.6K 0.50% 1/16W
R305	1-218-727-11	s METAL 30K 0.50% 1/16W
R306	1-218-732-11	s METAL 47K 0.50% 1/16W
R307	1-218-708-11	s METAL 4.7K 0.50% 1/16W
R308	1-218-856-11	s CHIP, METAL 2.4K 0.50% 1/16W
R309	1-218-874-11	s CHIP, METAL 13K 0.50% 1/16W
R310	1-218-714-11	s METAL 8.2K 0.50% 1/16W
R311	1-211-969-11	s CHIP, METAL 10 0.50% 1/16W
R312	1-218-680-11	s METAL 330 0.50% 1/16W
R313	1-218-851-11	s CHIP, METAL 1.5K 0.50% 1/16W

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Ref. No. or Q'ty	Part No.	SP	Description
R314	1-211-969-11	s	CHIP, METAL 10 0.50% 1/16W
R315	1-218-680-11	s	METAL 330 0.50% 1/16W
R316	1-218-692-11	s	CHIP, METAL 1K 0.50% 1/16W
R317	1-216-797-11	s	METAL, CHIP 10 5% 1/16W
R318	1-218-717-11	s	CHIP, METAL 11K 0.50% 1/16W
R319	1-218-699-11	s	CHIP, METAL 2K 0.50% 1/16W
R320	1-218-844-11	s	CHIP, METAL 750 0.50% 1/16W
R322	1-218-845-11	s	CHIP, METAL 820 0.50% 1/16W
R323	1-216-809-11	s	METAL, CHIP 100 5% 1/16W
R324	1-218-710-11	s	CHIP, METAL 5.6K 0.50% 1/16W
R325	1-218-883-11	s	METAL 33K 0.50% 1/16W
R326	1-218-716-11	s	METAL 10K 0.50% 1/16W
R327	1-218-699-11	s	CHIP, METAL 2K 0.50% 1/16W
R328	1-218-714-11	s	METAL 8.2K 0.50% 1/16W
R329	1-218-699-11	s	CHIP, METAL 2K 0.50% 1/16W
R330	1-218-730-11	s	CHIP, METAL 39K 0.50% 1/16W
R331	1-216-821-11	s	METAL, CHIP 1K 5% 1/16W
R332	1-218-692-11	s	CHIP, METAL 1K 0.50% 1/16W
R333	1-218-699-11	s	CHIP, METAL 2K 0.50% 1/16W
R334	1-216-809-11	s	METAL, CHIP 100 5% 1/16W
R335	1-218-672-11	s	METAL 150 0.50% 1/16W
R336	1-218-732-11	s	METAL 47K 0.50% 1/16W
R337	1-218-692-11	s	CHIP, METAL 1K 0.50% 1/16W
R338	1-218-699-11	s	CHIP, METAL 2K 0.50% 1/16W
R339	1-218-723-11	s	METAL 20K 0.50% 1/16W
R340	1-218-710-11	s	CHIP, METAL 5.6K 0.50% 1/16W
R341	1-218-699-11	s	CHIP, METAL 2K 0.50% 1/16W
R342	1-218-716-11	s	METAL 10K 0.50% 1/16W
R343	1-216-809-11	s	METAL, CHIP 100 5% 1/16W
R344	1-218-699-11	s	CHIP, METAL 2K 0.50% 1/16W
R345	1-218-842-11	s	CHIP, METAL 620 0.50% 1/16W
R346	1-218-750-11	s	METAL 270K 0.50% 1/16W
R347	1-218-723-11	s	METAL 20K 0.50% 1/16W
R348	1-216-825-11	s	METAL, CHIP 2.2K 5% 1/16W
R349	1-216-864-11	s	METAL, CHIP 0 5% 1/16W
R350	1-216-864-11	s	METAL, CHIP 0 5% 1/16W
R351	1-218-740-11	s	METAL 100K 0.50% 1/16W
R352	1-218-716-11	s	METAL 10K 0.50% 1/16W
R353	1-218-708-11	s	METAL 4.7K 0.50% 1/16W
R354	1-216-864-11	s	METAL, CHIP 0 5% 1/16W
R355	1-216-833-11	s	METAL, CHIP 10K 5% 1/16W
R356	1-218-692-11	s	CHIP, METAL 1K 0.50% 1/16W
R357	1-218-858-11	s	CHIP, METAL 3K 0.50% 1/16W
R358	1-218-717-11	s	CHIP, METAL 11K 0.50% 1/16W
R359	1-218-723-11	s	METAL 20K 0.50% 1/16W
R360	1-216-833-11	s	METAL, CHIP 10K 5% 1/16W
R361	1-216-833-11	s	METAL, CHIP 10K 5% 1/16W
R362	1-218-727-11	s	METAL 30K 0.50% 1/16W
R363	1-218-692-11	s	CHIP, METAL 1K 0.50% 1/16W
R364	1-218-858-11	s	CHIP, METAL 3K 0.50% 1/16W
R365	1-218-723-11	s	METAL 20K 0.50% 1/16W
R366	1-218-716-11	s	METAL 10K 0.50% 1/16W
R367	1-218-698-11	s	METAL 1.8K 0.50% 1/16W
R368	1-218-704-11	s	METAL 3.3K 0.50% 1/16W
R369	1-218-692-11	s	CHIP, METAL 1K 0.50% 1/16W
R370	1-218-883-11	s	METAL 33K 0.50% 1/16W
R371	1-218-740-11	s	METAL 100K 0.50% 1/16W
R372	1-216-845-11	s	METAL, CHIP 100K 5% 1/16W
R380	1-218-883-11	s	METAL 33K 0.50% 1/16W

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Ref. No. or Q'ty	Part No.	SP	Description
R381	1-218-708-11	s	METAL 4.7K 0.50% 1/16W
R400	1-218-692-11	s	CHIP, METAL 1K 0.50% 1/16W
R401	1-218-723-11	s	METAL 20K 0.50% 1/16W
R402	1-216-829-11	s	METAL, CHIP 4.7K 5% 1/16W
R403	1-216-830-11	s	METAL, CHIP 5.6K 5% 1/16W
R404	1-218-727-11	s	METAL 30K 0.50% 1/16W
R405	1-218-732-11	s	METAL 47K 0.50% 1/16W
R406	1-218-708-11	s	METAL 4.7K 0.50% 1/16W
R407	1-218-856-11	s	CHIP, METAL 2.4K 0.50% 1/16W
R408	1-218-874-11	s	CHIP, METAL 13K 0.50% 1/16W
R409	1-218-714-11	s	METAL 8.2K 0.50% 1/16W
R410	1-211-969-11	s	CHIP, METAL 10 0.50% 1/16W
R411	1-218-710-11	s	CHIP, METAL 5.6K 0.50% 1/16W
R412	1-218-680-11	s	METAL 330 0.50% 1/16W
R413	1-218-851-11	s	CHIP, METAL 1.5K 0.50% 1/16W
R414	1-211-969-11	s	CHIP, METAL 10 0.50% 1/16W
R415	1-218-680-11	s	METAL 330 0.50% 1/16W
R416	1-218-692-11	s	CHIP, METAL 1K 0.50% 1/16W
R417	1-216-797-11	s	METAL, CHIP 10 5% 1/16W
R418	1-218-717-11	s	CHIP, METAL 11K 0.50% 1/16W
R419	1-218-699-11	s	CHIP, METAL 2K 0.50% 1/16W
R420	1-218-844-11	s	CHIP, METAL 750 0.50% 1/16W
R422	1-218-845-11	s	CHIP, METAL 820 0.50% 1/16W
R423	1-216-809-11	s	METAL, CHIP 100 5% 1/16W
R424	1-218-710-11	s	CHIP, METAL 5.6K 0.50% 1/16W
R425	1-218-883-11	s	METAL 33K 0.50% 1/16W
R426	1-218-716-11	s	METAL 10K 0.50% 1/16W
R427	1-218-699-11	s	CHIP, METAL 2K 0.50% 1/16W
R428	1-218-714-11	s	METAL 8.2K 0.50% 1/16W
R429	1-218-699-11	s	CHIP, METAL 2K 0.50% 1/16W
R430	1-218-730-11	s	CHIP, METAL 39K 0.50% 1/16W
R431	1-216-821-11	s	METAL, CHIP 1K 5% 1/16W
R432	1-218-692-11	s	CHIP, METAL 1K 0.50% 1/16W
R433	1-218-699-11	s	CHIP, METAL 2K 0.50% 1/16W
R434	1-216-809-11	s	METAL, CHIP 100 5% 1/16W
R435	1-218-672-11	s	METAL 150 0.50% 1/16W
R436	1-218-732-11	s	METAL 47K 0.50% 1/16W
R437	1-218-692-11	s	CHIP, METAL 1K 0.50% 1/16W
R438	1-218-699-11	s	CHIP, METAL 2K 0.50% 1/16W
R439	1-218-723-11	s	METAL 20K 0.50% 1/16W
R440	1-218-710-11	s	CHIP, METAL 5.6K 0.50% 1/16W
R441	1-218-699-11	s	CHIP, METAL 2K 0.50% 1/16W
R442	1-216-809-11	s	METAL, CHIP 100 5% 1/16W
R443	1-218-699-11	s	CHIP, METAL 2K 0.50% 1/16W
R444	1-218-842-11	s	CHIP, METAL 620 0.50% 1/16W
R445	1-218-740-11	s	METAL 100K 0.50% 1/16W
R446	1-218-723-11	s	METAL 20K 0.50% 1/16W
R447	1-216-864-11	s	METAL, CHIP 0 5% 1/16W
R448	1-218-716-11	s	METAL 10K 0.50% 1/16W
R449	1-216-825-11	s	METAL, CHIP 2.2K 5% 1/16W
R450	1-216-864-11	s	METAL, CHIP 0 5% 1/16W
R451	1-218-740-11	s	METAL 100K 0.50% 1/16W
R452	1-218-716-11	s	METAL 10K 0.50% 1/16W
R453	1-218-708-11	s	METAL 4.7K 0.50% 1/16W
R454	1-216-864-11	s	METAL, CHIP 0 5% 1/16W
R455	1-216-833-11	s	METAL, CHIP 10K 5% 1/16W
R456	1-218-692-11	s	CHIP, METAL 1K 0.50% 1/16W
R457	1-218-858-11	s	CHIP, METAL 3K 0.50% 1/16W
R458	1-218-717-11	s	CHIP, METAL 11K 0.50% 1/16W

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Ref. No. or Q'ty	Part No.	SP Description
R459	1-218-723-11	s METAL 20K 0.50% 1/16W
R460	1-216-833-11	s METAL, CHIP 10K 5% 1/16W
R461	1-216-833-11	s METAL, CHIP 10K 5% 1/16W
R462	1-218-727-11	s METAL 30K 0.50% 1/16W
R463	1-218-692-11	s CHIP, METAL 1K 0.50% 1/16W
R464	1-218-858-11	s CHIP, METAL 3K 0.50% 1/16W
R465	1-218-723-11	s METAL 20K 0.50% 1/16W
R466	1-218-716-11	s METAL 10K 0.50% 1/16W
R467	1-218-698-11	s METAL 1.8K 0.50% 1/16W
R468	1-218-704-11	s METAL 3.3K 0.50% 1/16W
R469	1-218-692-11	s CHIP, METAL 1K 0.50% 1/16W
R470	1-218-883-11	s METAL 33K 0.50% 1/16W
R471	1-218-740-11	s METAL 100K 0.50% 1/16W
R472	1-216-845-11	s METAL, CHIP 100K 5% 1/16W
R480	1-218-883-11	s METAL 33K 0.50% 1/16W
R481	1-218-708-11	s METAL 4.7K 0.50% 1/16W
RV50	1-241-263-11	s RES, ADJ, METALT 5K
RV200	1-241-260-11	s METAL, ADJ 500
RV300	1-241-260-11	s METAL, ADJ 500
RV400	1-241-260-11	s METAL, ADJ 500

FRAME

Ref. No. or Q'ty	Part No.	SP Description
1pc	1-239-963-12	s FILTER, MPX
1pc	A-8272-571-A	s CONVERTER, D.C-D.C
2pcs	△ A-8272-598-A	s CONVERTER, AC.DC/DC
1pc	△ 1-576-228-11	s FUSE (H.B.C.) T2AH 250V
1pc	△ 1-533-191-11	s HOLDER, FUSE
4pcs	△ 1-576-231-41	s FUSE (H.B.C.) T4AH 250V
4pcs	△ 1-533-191-11	s HOLDER, FUSE
1pc	1-775-775-11	o WIRE, FLEXIBLE CARD (24 CORE) (MB-637 to PR-211)
1pc	1-775-779-11	o WIRE, FLEXIBLE CARD (20 CORE) (MB-637 to CCD UNIT)
1pc	1-775-780-11	o WIRE, FLEXIBLE CARD (24 CORE) (MB-637 to CCD UNIT)
1pc	1-775-966-11	o WIRE, FLEXIBLE CARD (20 CORE) (MB-637 to SW-795)
CB1	△ 1-533-514-31	s BREAKER, CIRCUIT 1.25A 250V (J,UC)
CB1	△ 1-533-514-61	s BREAKER, CIRCUIT 1.25A 250V (CE)
CB2	△ 1-533-515-31	s BREAKER, CIRCUIT 2.5A 250V (J,UC)
CB2	△ 1-533-515-61	s BREAKER, CIRCUIT 2.5A 250V (CE)
CN1F(to CN-1232 board)		
	1-580-586-11	o HOUSING, 20P
	1-573-176-11	o CONTACT, FEMALE AWG22-26
	1-580-599-11	o CONTACT, FEMALE AWG26-30
CN1F(to LF-31 board)		
	1-562-211-11	o HOUSING, 3P
	1-562-210-11	o CONTACT, FEMALE AWG18-22
CN1F(to PS-392 board)		
	1-562-286-11	o HOUSING, 5P
	1-562-210-11	o CONTACT, FEMALE AWG18-22
CN1F(to PS-435 board)		
	1-562-211-11	o HOUSING, 3P
	1-562-210-11	o CONTACT, FEMALE AWG18-22
CN1F(to SW-805 board)		
	1-580-591-11	o HOUSING, 30P
	1-573-176-11	o CONTACT, FEMALE AWG22-26
	1-580-599-11	o CONTACT, FEMALE AWG26-30
CN2F(to CN-1231 board)		
	1-580-578-11	s HOUSING, 4P
	1-580-599-11	o CONTACT, FEMALE AWG26-30
CN2F(to PS-392 board)		
	△ 1-562-286-11	o HOUSING, 5P
	△ 1-562-210-11	o CONTACT, FEMALE AWG18-22
CN2F(to PS-434 board)		
	1-580-583-11	o HOUSING, 14P
	1-580-599-11	o CONTACT, FEMALE AWG26-30
CN3F(to LF-31 board)		
	1-562-352-11	o HOUSING, 2P
	1-562-210-11	o CONTACT, FEMALE AWG18-22
CN3F(to PS-434 board)		
	1-580-584-11	o HOUSING, 16P
	1-580-599-11	o CONTACT, FEMALE AWG26-30
CN4F(to PS-392 board)		
	△ 1-562-352-11	o HOUSING, 2P
	△ 1-562-210-11	o CONTACT, FEMALE AWG18-22

(FRAME)

Ref. No. or Q'ty	Part No.	SP Description
CN5F(to PS-392 board)		
	△ 1-562-352-11	o HOUSING, 2P
	△ 1-562-210-11	o CONTACT, FEMALE AWG18-22
CN6F(to PS-392 board)		
	△ 1-562-352-11	o HOUSING, 2P
	△ 1-562-210-11	o CONTACT, FEMALE AWG18-22
CN7F(to PS-392 board)		
	△ 1-562-352-11	o HOUSING, 2P
	△ 1-562-210-11	o CONTACT, FEMALE AWG18-22
CN8F(to PS-392 board)		
	△ 1-562-352-11	o HOUSING, 2P
	△ 1-562-210-11	o CONTACT, FEMALE AWG18-22
CN11F(to PS-392 board)		
	1-562-211-11	o HOUSING, 3P
	1-562-210-11	o CONTACT, FEMALE AWG18-22
CN11F(to SW-805 board)		
	1-569-203-11	o HOUSING, 10P
	1-569-192-11	o CONTACT, FEMALE AWG22-26
	1-569-194-11	o CONTACT, FEMALE AWG24-30
CN12F(to PS-392 board)		
	1-580-591-11	o HOUSING, 30P
	1-580-599-11	o CONTACT, FEMALE AWG26-30
CN13F(to MB-637 board)		
	1-764-193-11	o HOUSING, 3P
	1-695-215-11	o CONTACT, FEMALE AWG26-30
CN17F(to MB-637 board)		
	1-580-591-11	o HOUSING, 30P
	1-573-176-11	o CONTACT, FEMALE AWG22-26
	1-580-599-11	o CONTACT, FEMALE AWG26-30
CN19(to MB-637 board)		
	1-580-582-11	o HOUSING, 12P
	1-573-176-11	o CONTACT, FEMALE AWG22-26
	1-580-599-11	o CONTACT, FEMALE AWG26-30
CN20F(to MB-637 board)		
	1-580-591-11	o HOUSING, 30P
	1-573-176-11	o CONTACT, FEMALE AWG22-26
	1-580-599-11	o CONTACT, FEMALE AWG26-30
CN21F(to MB-637 board)		
	1-580-591-11	o HOUSING, 30P
	1-573-176-11	o CONTACT, FEMALE AWG22-26
	1-580-599-11	o CONTACT, FEMALE AWG26-30
CN21F(to PS-392 board)		
	1-562-211-11	o HOUSING, 3P
	1-562-210-11	o CONTACT, FEMALE AWG18-22
CN22F(to PS-392 board)		
	1-580-591-11	o HOUSING, 30P
CONTROL "		
	1-580-599-11	o CONTACT, FEMALE AWG26-30
CN24F(to MB-637 board)		
	1-580-591-11	o HOUSING, 30P
	1-580-599-11	o CONTACT, FEMALE AWG26-30
CN24F(to PS-392 board)		
	1-580-591-11	o HOUSING, 30P
	1-580-599-11	o CONTACT, FEMALE AWG26-30

(FRAME)

Ref. No. or Q'ty	Part No.	SP Description
CN25(to MB-637 board)		
	1-580-586-11	o HOUSING, 20P
	1-573-176-11	o CONTACT, FEMALE AWG22-26
	1-580-599-11	o CONTACT, FEMALE AWG26-30
CN29F(to MB-637 board)		
	1-580-582-11	o HOUSING, 12P
	1-573-176-11	o CONTACT, FEMALE AWG22-26
CN30F(to MB-637 board)		
	1-580-586-11	o HOUSING, 20P
	1-573-176-11	o CONTACT, FEMALE AWG22-26
	1-580-599-11	o CONTACT, FEMALE AWG26-30
CN31F(to MB-637 board)		
	1-580-591-11	o HOUSING, 30P
	1-580-599-11	o CONTACT, FEMALE AWG26-30
CN31F(to PS-392 board)		
	1-580-591-11	o HOUSING, 30P
	1-580-599-11	o CONTACT, FEMALE AWG26-30
CN33F(to MB-637 board)		
	1-764-194-11	o HOUSING, 4P
	1-695-215-11	o CONTACT, FEMALE AWG26-30
CN41F(to LE-130 board)		
	1-562-148-11	o HOUSING, 3P
	1-563-088-11	o CONTACT, FEMALE AWG24-30
CN43F(to CN-1239 board)		
	1-580-582-11	o HOUSING, 12P
	1-573-176-11	o CONTACT, FEMALE AWG22-26
	1-580-599-11	o CONTACT, FEMALE AWG26-30
CN44F(to CN-988 board)		
	1-580-578-11	s HOUSING, 4P
	1-580-599-11	o CONTACT, FEMALE AWG26-30
CN45F(to CN-989 board)		
	1-580-589-11	o HOUSING, 26P
	1-573-176-11	o CONTACT, FEMALE AWG22-26
	1-580-599-11	o CONTACT, FEMALE AWG26-30
CN51F(to CN-986 board)		
	△ 1-562-285-11	s HOUSING, 4P
	△ 1-562-210-11	o CONTACT, FEMALE AWG18-22
CN52F(to CN-986 board)		
	1-562-352-11	o HOUSING, 2P
	1-562-210-11	o CONTACT, FEMALE AWG18-22
CN54F(to CN-986 board)		
	1-562-211-11	o HOUSING, 3P
	1-562-210-11	o CONTACT, FEMALE AWG18-22
CN1	1-565-443-11	o CONNECTOR, 10P, FEMALE "TRACKER"
CN2	1-562-222-21	s CONNECTOR, 6P, FEMALE "RET"
CN3	1-766-696-11	o CONNECTOR, 8P, FEMALE "REMOTE"
CN4	1-563-929-11	s CONNECTOR, 4P, FEMALE "SCRIPT"
CN11	1-569-253-21	s CONNECTOR, BNC, FEMALE "MONITOR"
CN11(on CN-1239A board)		
	1-573-593-11	s CONNECTOR, XLR 3P, MALE "MIC CH-1" (J)
CN11(on CN-1239B board)		
	1-573-594-11	s CONNECTOR, XLR 3P, FEMALE "MIC CH-1" (UC,CE)
CN12	1-562-222-21	s CONNECTOR, 6P, FEMALE "REMOTE"

(FRAME)

Ref. No. or Q'ty	Part No.	SP Description
CN12	1-569-253-21	s CONNECTOR, BNC, FEMALE "PROMPTER OUT"
CN12(on CN-1239A board)	1-573-593-11	s CONNECTOR, XLR 3P, FEMALE "MIC CH-2" (J)
CN12(on CN-1239B board)	1-573-594-11	s CONNECTOR, XLR 3P, FEMALE "MIC CH-2" (UC,CE)
CN44(on CN-988 board)	1-580-531-11	o PIN, CONNECTOR 4P
CN45(on CN-989 board)	1-580-542-11	o PIN, CONNECTOR 26P
CN100	△ 1-565-801-11	s CONNECTOR, DOUBLE COAXIAL "TRIAx" (UC)
CN100	△ 1-565-797-12	s CONNECTOR, DOUBLE COAXIAL "TRIAx" (J)
CN100	△ 1-561-844-00	s CONNECTOR, COAXIAL "TRIAx" (CE)
CN101	1-953-632-11	o HARNESS (UTL(NTSC)) (J,UC)
CN101	1-251-220-11	s OUTLET 3P "AC OUT" (J,UC)
CN101	1-953-633-12	o HARNESS (UTL(PAL)) (CE)
CN101	1-251-221-11	s OUTLET 3P "AC OUT" (CE)
CN102	1-955-223-11	o HARNESS (LENS)
CN103	1-509-892-31	o CONNECTOR 36P, MALE "LENS"
CN103	1-956-540-21	o HARNESS (VF)
CN104	1-562-989-11	s CONNECTOR, MULTI 25P, FEMALE "VF"
CN104	1-562-580-21	o CONTACT, FEMALE AWG24-28
CN104	1-563-159-11	s CONNECTOR, 5P, FEMALE "INTERCOM"
FB100	1-543-824-11	s CORE, TROIDAL
FB101	1-543-824-11	s CORE, TROIDAL
FB102	1-543-824-11	s CORE, TROIDAL
S101	△ 1-570-173-11	s SELECTOR, POWER VOLTAGE
S102	△ 1-570-173-11	s SELECTOR, POWER VOLTAGE
S103	△ 1-762-116-11	s SWITCH, AC POWER
T100	△ 1-426-993-13	s TRANSFORMER, POWER

1-4. Supplied Accessories

Ref. No. or Q'ty	Part No.	SP Description
1pc	△ 1-576-228-11	s FUSE (H.B.C.) T2AH 250V
4pcs	△ 1-576-231-41	s FUSE (H.B.C.) T4AH 250V
2pcs	2-280-511-01	o BRACKET, ADJUSTMENT, ANGLE
1pc	3-167-517-01	s PLATE, NUMBER (BACK TALLY LAMP)
1pc	3-185-945-01	s PLATE, NUMBER (SIDE PANEL)
2pcs	3-186-502-01	s BAND, CLAMP
1pc	4-027-937-01	s PLATE, NUMBER (UP TALLY LAMP)

1-5. Optional Fixtures

Part No.	SP Description
J-6026-110-A	o MULTI-BURST CHART
J-6026-130-B	o GRAYSCALE CHART
J-6029-140-B	o PATTERN BOX PTB-500
J-6394-080-A	o GRAYSCALE CHART (16:9)
J-6395-040-A	o EXTENSION BOARD, EX-464
J-6395-070-A	o EXTENSION HARNESS FOR POWER ASSEMBLY
J-6395-080-A	o PORTABLE LENS ATTACHMENT FOR 0HB-400 SERIES
J-6395-090-A	o PORTABLE LENS ATTACHMENT FOR 0HB-500/500WS SERIES

1-6. Changed Parts

NOTE: The numbers identified by marking with) are
matching with each serial numbers.
See the table matched with each serial numbers.

511) Serial No. 15001-(UC), 35001-(J), 45001-(CE)
601) Serial No. 15031-(UC), 35001-(J), 45031-(CE)

----- AU-211 BOARD -----

511) C95 1-162-925-11 s CERAMIC, CHIP 68PF 5% 50V
511) C96 1-162-925-11 s CERAMIC, CHIP 68PF 5% 50V
511) C201 NOT IN USE.
511) R289 1-216-837-11 s CHIP, METAL 22K 5% 1/16W
511) R52 1-216-845-11 s CHIP, METAL 100K 0.50% 1/16W

511) R53 1-216-845-11 s CHIP, METAL 100K 0.50% 1/16W
511) R84 1-218-723-11 s CHIP, METAL 20K 0.50% 1/16W

---> 1-162-919-11 s CERAMIC,CHIP 22PF 5% 50V
---> 1-162-919-11 s CERAMIC,CHIP 22PF 5% 50V
---> 1-131-377-00 s TANTALUM 10uF 10% 10V
---> 1-216-843-11 s METAL, CHIP 68K 5% 1/16W
---> 1-218-752-11 s METAL, CHIP 330K 0.5% 1/16W

---> 1-218-752-11 s METAL, CHIP 330K 0.5% 1/16W
---> 1-218-720-11 s METAL, CHIP 15K 0.5% 1/16W

----- MD-103 BOARD -----

601) C210 NOT IN USE.
601) C211 NOT IN USE.

---> 1-162-974-11 s CERAMIC 0.01uF 50V
---> 1-162-974-11 s CERAMIC 0.01uF 50V

----- TR-90 BOARD -----

511) R130 1-216-841-11 s RES, CHIP 47K 5% 1/16W

---> DELETED.

Section 2

Semiconductor Pin Assignments

ここに記載されている半導体は、それぞれの機能を等価的に表したものです。なお、互換性のない型名を併記していることがありますので、部品を交換するときは、Spare Partsの章を参照してください。

等価回路は I C メーカーのデータブックに従いました。

Semiconductors of which functions are equivalent are described here.

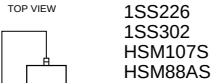
For parts replacement, refer to the section of Spare Parts in this manual. The circuit diagram of each IC is obtained from the IC data book published by the manufacturer.

Diode	PAGE						
1S1588	2-2	2SC4177	2-2	CXD1171M	2-7	TC4S30F	2-21
1SS226	2-2	2SC4177-L6	2-2	CXD2307R	2-8	TC4S69F	2-21
1SS300	2-2	2SC4178	2-2	CXD2310R	2-8	TC4S71F	2-21
1SS302	2-2	2SC4184	2-2	CXK1203AR	2-9	TC4S81F	2-22
1T363	2-2	2SC4215	2-2			TC4SU69F	2-21
		2SD1048	2-2	EL4581CS	2-9	TC4W53FU	2-22
CL-150D-CD	2-2	2SD1111	2-2			TC4W66FU	2-22
CL-150PG-CD	2-2	2SD1615A	2-3	HA11423MP	2-9	TC74HC00AF	2-16
CL-150UR-CD	2-2	2SD1623	2-3	HD14053BFP	2-10	TC74HC4052AFS (EL)	2-22
CL-200HR	2-2	2SD596	2-2	HD151015T	2-10	TC74HC4053AFS	2-16
		2SD596-DV5	2-2	HD6475328F10	2-11	TC74HC4538AFS	2-22
DE5LC20U	2-2					TC74HC595AF	2-23
GL-5ED5	2-2	DTA143XKA	2-3	LA1140	2-12	TC74VHC00FS (EL)	2-16
		DTA144E	2-3	LM339NS	2-12	TC74VHC02F	2-23
		DTA144EUA	2-3	LM339PW	2-12	TC74VHC04FS (EL)	2-19
HSM107S	2-2	DTC143XKA	2-3	LM358PS	2-12	TC74VHC08FS (EL)	2-19
HSM88AS	2-2	DTC144EE	2-3	LM393PS	2-12	TC74VHC138FS (EL)	2-23
HSM88WA	2-2	DTC144EK	2-3	LM4040BIMM3X	2-12	TC74VHC157FS	2-19
HSM88WK	2-2	DTC144EKA	2-3			TC74VHC163F	2-23
		DTC144EUA	2-3	M27V201-200L6	2-12	TC74VHC20F	2-24
KV1470	2-2			M51132FP	2-13	TC74VHC244FS (EL)	2-20
LT9527U	2-2	IMB2	2-3	M51958A	2-13	TC74VHC32FS (EL)	2-24
		IMH2	2-3	M52313SP	2-13	TC74VHC541FS (EL)	2-24
				M62021FP	2-13	TC74VHC74F	2-19
MA141WK	2-2	Others	PAGE	M62352GP	2-14	TC74VHC74FS (EL)	2-19
				MAX202CSE	2-14	TC7S00FU	2-21
RD ? ?M-B ?	2-2	2SK612	2-3	MB88346BPFV	2-14	TC7S02FU	2-21
RD ? ?M-B	2-2	2SK663	2-3	MB88351PFV	2-15	TC7S04FU	2-21
RD ? ?MB	2-2	2SK664	2-3	MC14018BF	2-15	TC7S08FU	2-22
RD ? ?UH	2-2	2SK852-X2	2-3	MC14020BF	2-15	TC7S32FU	2-21
RD ? ?UJN	2-2	2SK853	2-3	MC14023BF	2-16	TC7S66FU	2-24
				MC74HC00AF	2-16	TC7S86FU	2-21
SC802-04	2-2	CXK58257ATM-70LL	2-3	MC74HC4053F	2-16	TC7SH02FU	2-21
				MN6790S	2-16	TC7SH04FU	2-21
V09C	2-2	HM53461JP-12	2-4	MN8232A	2-17	TC7SH08FU	2-22
V09G	2-2			MSM82C55A-2GS	2-17	TC7SH32FU	2-21
V11 ?	2-2	MP7670AS	2-4			TC7W00FU	2-24
				NJM3414AM	2-18	TC7W02F	2-24
Transistor	PAGE	PC410	2-5	NJM4556AM-A	2-18	TC7W04FU	2-24
2SA1162G	2-2	SGM2016M	2-5	NJM4558V	2-18	TC7W08FU	2-24
2SA1226	2-2			NJU7022M	2-18	TC7W139FU	2-25
2SA1610	2-2	UPA101G	2-5	PCF8574AT	2-18	TC7W32FU	2-25
2SA1611	2-2			PCF8574T	2-18	TC7W74FU	2-25
2SA1688	2-2	XN6401	2-5			TL062CPW	2-25
2SA1808	2-2	XN6435	2-5	REF-03GS	2-18	TL064CPW	2-25
2SA811A	2-2	XN6501	2-5	RTC4553B	2-19	TL074CPW	2-25
2SB1115A	2-2	XN6534	2-5			TL082M	2-25
2SB1121	2-2	XP6435	2-5	SN74HC08ANS	2-19	TL084CPW	2-25
2SB1440S	2-2	XP6501	2-5	SN74HC08APW	2-19	TLC0820ACDW	2-26
2SB624	2-2	XP6534	2-5	SN74HC157APW	2-19	TLC272CPW	2-26
2SB798	2-2			SN74HC74ANS	2-19	TLC27L2CPS	2-26
2SC1623	2-2	IC	PAGE	SN74HCT04APW	2-19		
2SC2223	2-2	BA225F	2-6	SN74HCT244APW-E05 ...	2-20	UPC358G2	2-12
2SC2712	2-2			SN75158PS	2-20	UPC393G2	2-12
2SC2713	2-2			STK10C68-5S35	2-20	UPD4702G	2-26
2SC2714Y	2-2	CA3102M	2-6			UPD6453GT-610	2-27
2SC2757	2-2	CLC505AJE	2-6	TA75S393F	2-20	UPD71055GB-10-3B4	2-28
2SC2758	2-2	CXA1165M	2-6	TA8129Z	2-21		
2SC3115	2-2	CXA1432M	2-6	TC4S01F	2-21	X24164S1	2-28
2SC3360	2-2	CXA1486Q	2-7	TC4S11F	2-21	X24C02S-3. 0	2-28

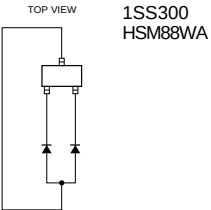
DIODE



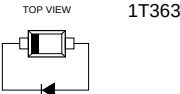
1S1588



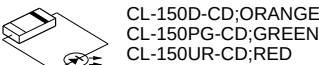
1SS226
1SS302
HSM107S
HSM88AS



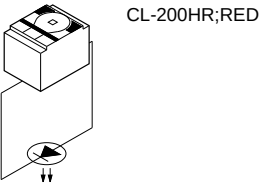
1SS300
HSM88WA



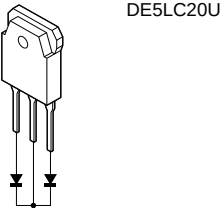
1T363



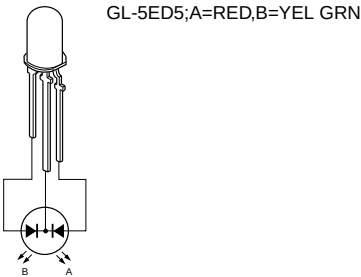
CL-150D-CD;ORANGE
CL-150PG-CD;GREEN
CL-150UR-CD;RED



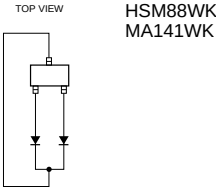
CL-200HR;RED



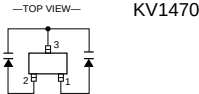
DE5LC20U



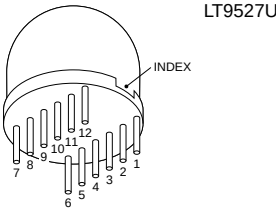
GL-5ED5;A=RED,B=YEL GRN



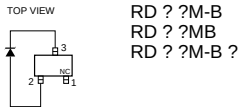
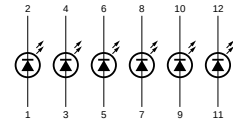
HSM88WK
MA141WK



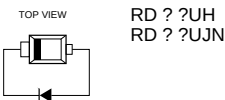
KV1470



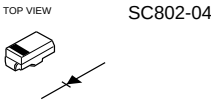
LT9527U



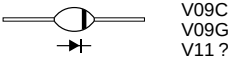
RD ? ?M-B
RD ? ?MB
RD ? ?M-B ?



RD ? ?UH
RD ? ?UJN

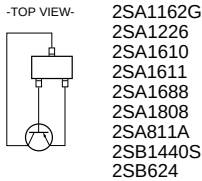


SC802-04

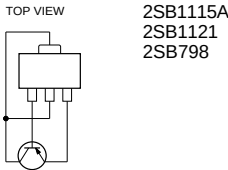


V09C
V09G
V11 ?

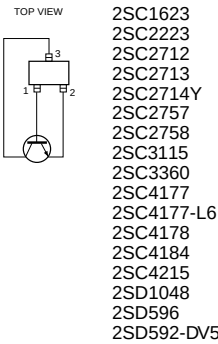
TRANSISTOR



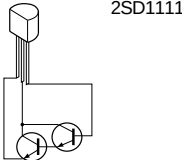
2SA1162G
2SA1226
2SA1610
2SA1611
2SA1688
2SA1808
2SA811A
2SB1440S
2SB624



2SB1115A
2SB1121
2SB798

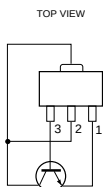


2SC1623
2SC2223
2SC2712
2SC2713
2SC2714Y
2SC2757
2SC2758
2SC3115
2SC3360
2SC4177
2SC4177-L6
2SC4178
2SC4184
2SC4215
2SD1048
2SD596
2SD592-DV5

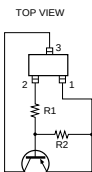


2SD1111

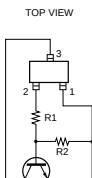
Others



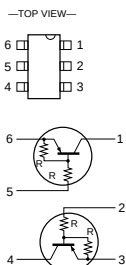
2SD1615A
2SD1623



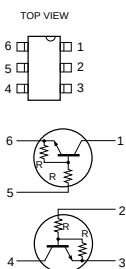
DTA143XKA(R1=4.7K, R2=10K)
DTA144EE(R1=47K, R2=47K)
DTA144EUA(R1=47K, R2=47K)



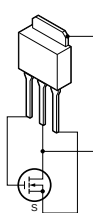
DTC143XKA(R1=4.7K, R2=10K)
DTC144EE(R1=47K, R2=47K)
DTC144EK(R1=47K, R2=47K)
DTC144EKA(R1=47K, R2=47K)
DTC144EUA(R1=47K, R2=47K)



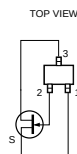
IMB2(R=47K)



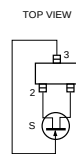
IMH2(R=47K)



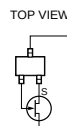
2SK612



2SK663



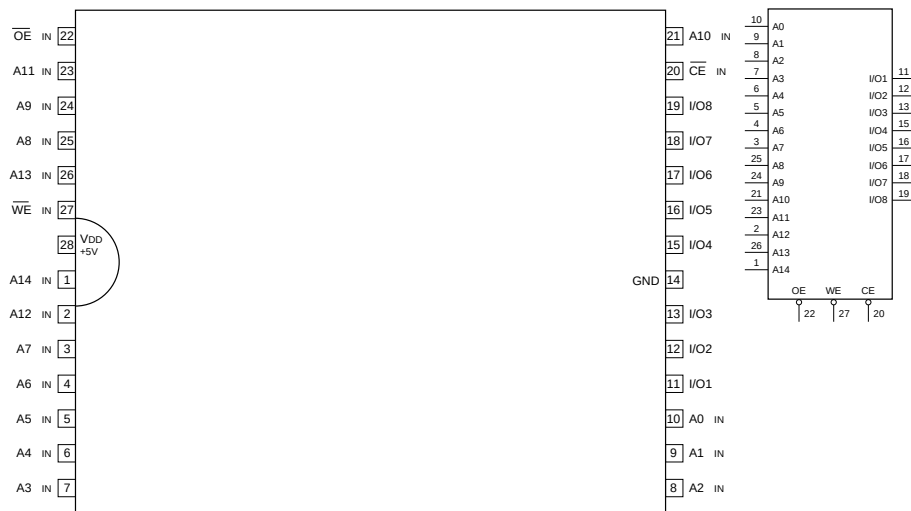
2SK852-X2
2SK853



2SK664

CXK58257ATM-70LL(SONY)(ACCESS TIME=70ns)FLAT PACKAGE

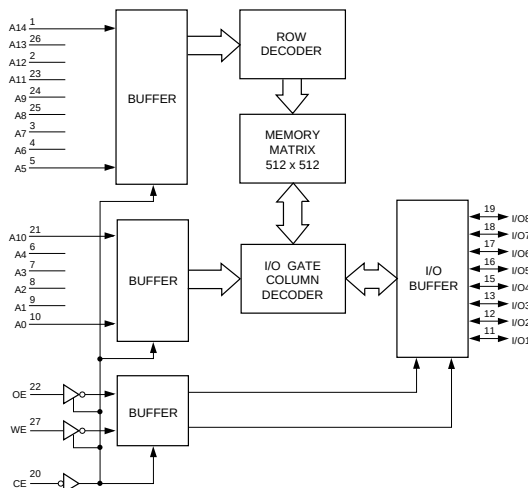
C-MOS 256K (32768 x 8)-BIT STATIC RAM
—TOP VIEW—



A0-A14 : ADDRESS INPUTS
CE : CHIP ENABLE INPUT
I/O1-I/O8 : DATA INPUTS/OUTPUTS
OE : OUTPUT ENABLE INPUT
WE : WRITE ENABLE INPUT

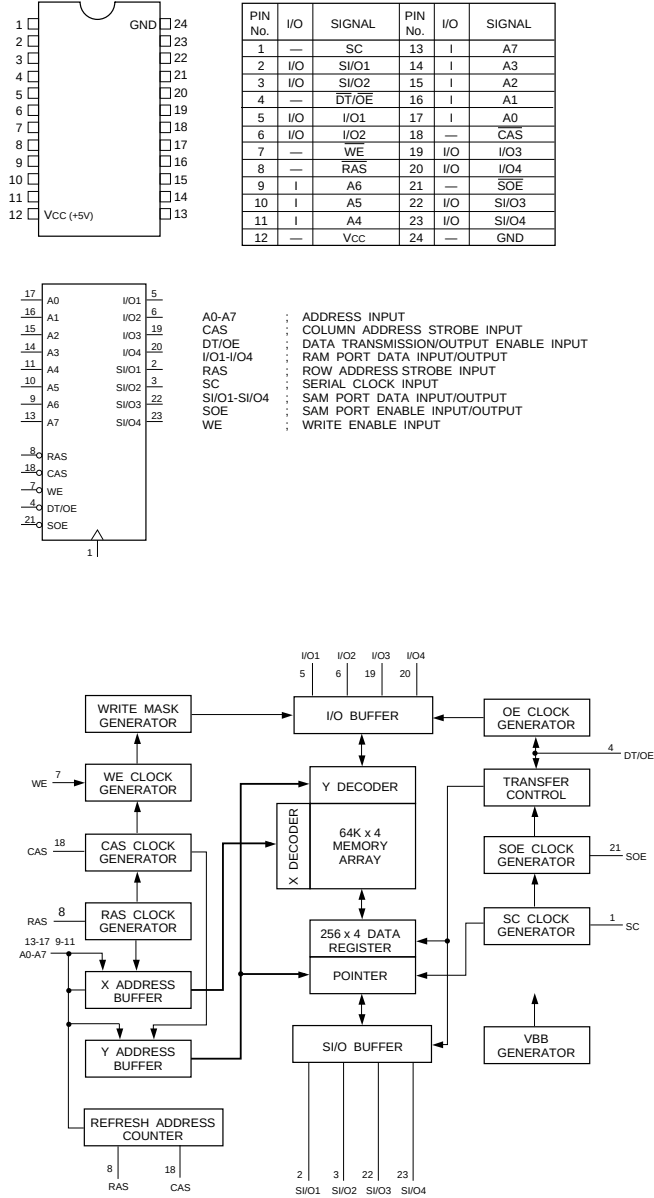
CE	OE	WE	MODE	I/O TERMINAL
1	X	X	NOT SELECT	HIGH IMPEDANCE
0	1	1	OUTPUT DISABLE	HIGH IMPEDANCE
0	0	1	READ	OUTPUT DATA
0	X	0	WRITE	INPUT DATA

0 : LOW LEVEL
1 : HIGH LEVEL
X : DON'T CARE



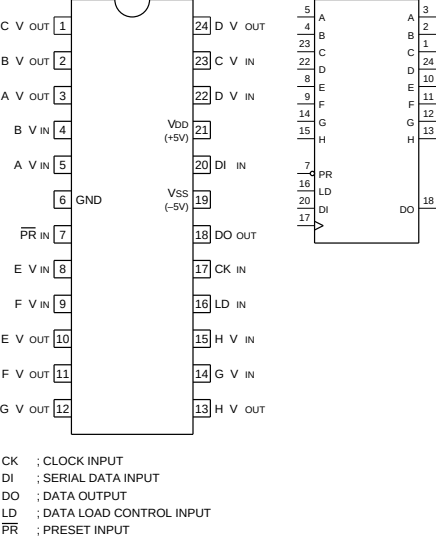
HM53461JP-12(HITACHI)(ACCESS TIME=120ns)PLCC

C-MOS 64K WORD x 4 BIT MULTI PORT RAM
—TOP VIEW—

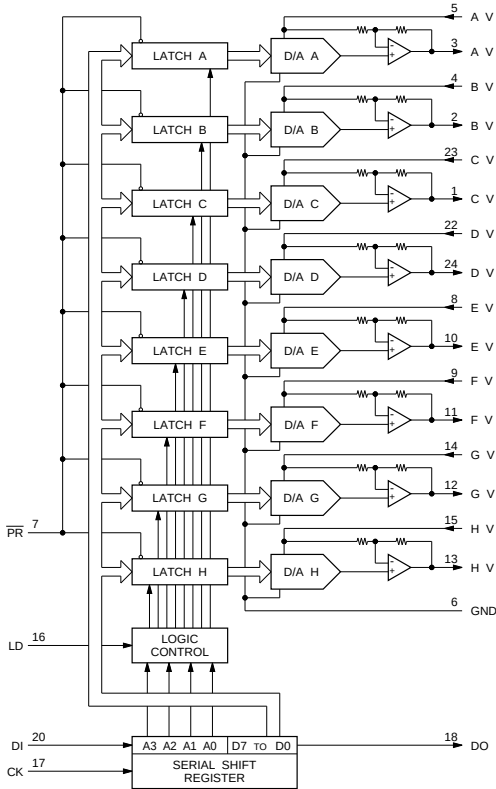


MP7670AS(MICRO POWER SYSTEMS)FLAT PACKAGE

C-MOS 8-BIT 8CHANNEL D/A CONVERTER
— TOP VIEW —



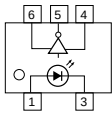
CK : CLOCK INPUT
DI : SERIAL DATA INPUT
DO : DATA OUTPUT
LD : DATA LOAD CONTROL INPUT
PR : PRESET INPUT



PC410(SHARP)FLAT PACKAGE

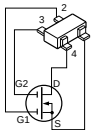
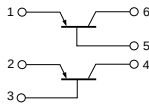
OPIC-OUTPUT PHOTO COUPLER

—TOP VIEW—



TOP VIEW

XP6435

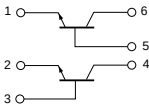


SGM2016M



TOP VIEW

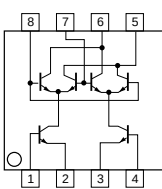
XP6501



UPA101G(NEC)FLAT PACKAGE

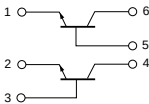
TRANSISTOR ARRAY

—TOP VIEW—



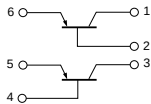
TOP VIEW

XP6534



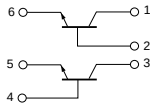
TOP VIEW

XN6401
XN6435



TOP VIEW

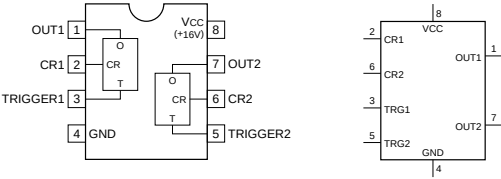
XN6501
XN6534



IC

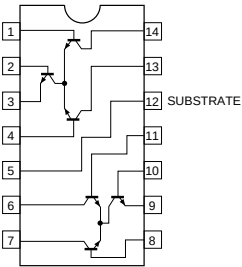
BA225F(ROHM)

CR TIMER
-TOP VIEW-



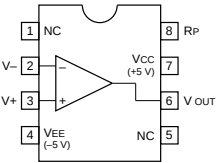
CA3102M(RCA)FLAT PACKAGE

HIGH FREQ.DIFFERENTIAL AMPLIFIER
-TOP VIEW-



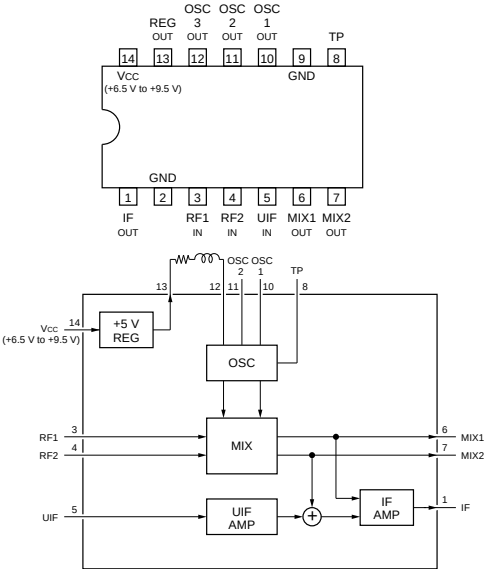
CLC505AJE(COMLINEAR)FLAT PACKAGE

OPERATIONAL AMPLIFIER
-TOP VIEW-



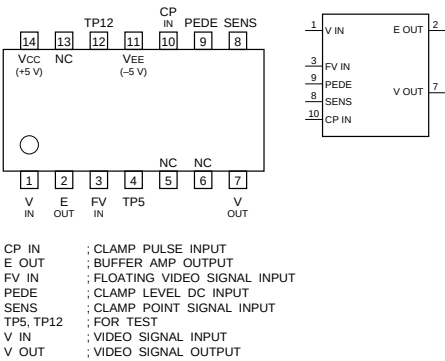
CXA1165M(SONY)FLAT PACKAGE

CATV VHF TUNER
-TOP VIEW-

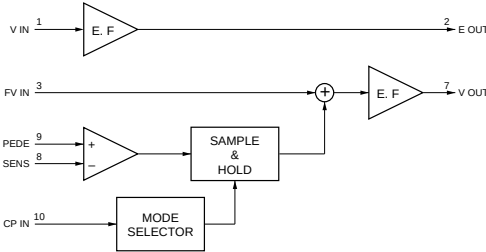


CXA1432M(SONY)FLAT PACKAGE

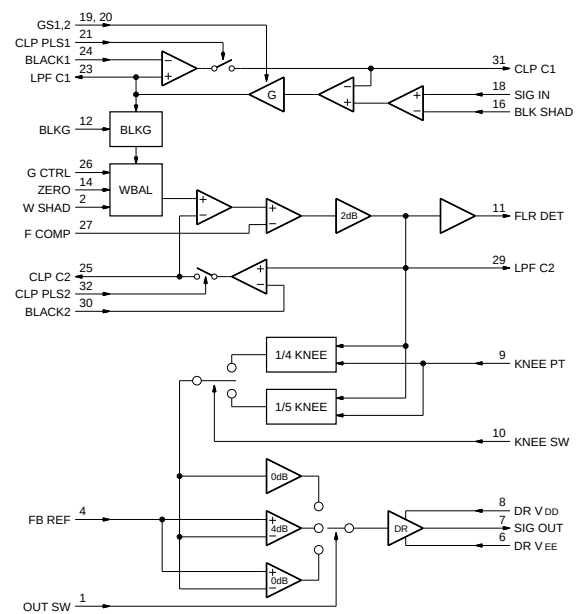
VIDEO SIGNAL CLAMPER
-TOP VIEW-



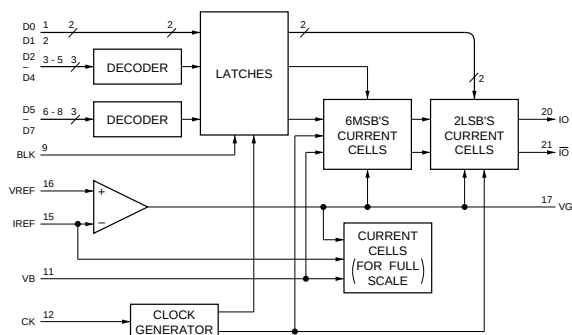
CP IN : CLAMP PULSE INPUT
E OUT : BUFFER AMP OUTPUT
FV IN : FLOATING VIDEO SIGNAL INPUT
PEDE : CLAMP LEVEL DC INPUT
SENS : CLAMP POINT SIGNAL INPUT
TP5, TP12 : FOR TEST
V IN : VIDEO SIGNAL INPUT
V OUT : VIDEO SIGNAL OUTPUT



- TOP VIEW -



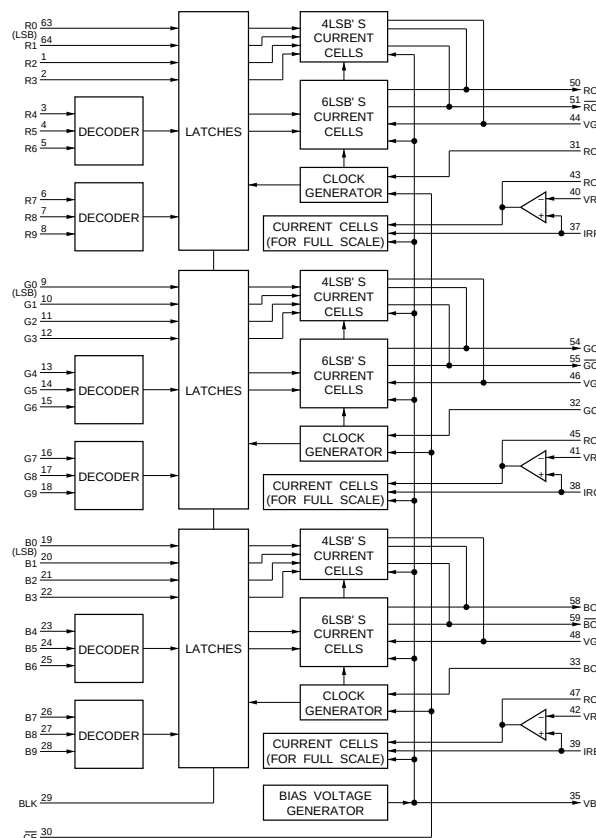
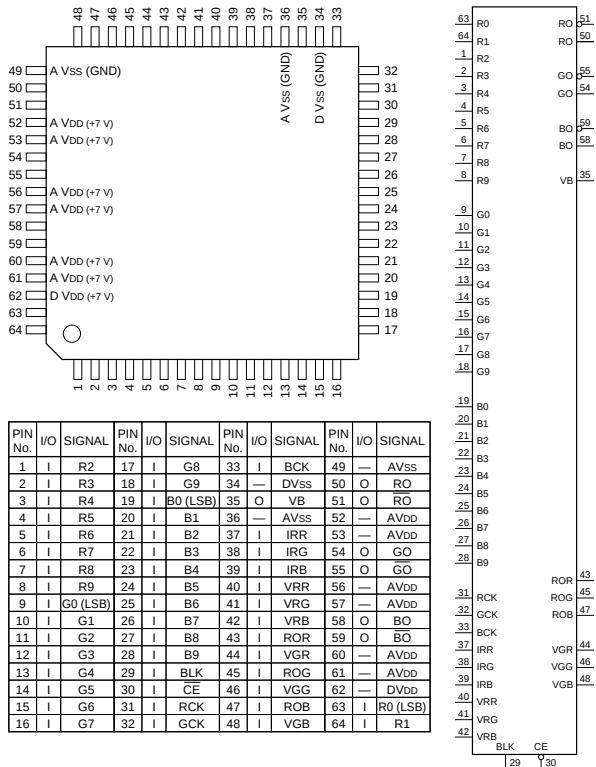
— TOP VIEW —



CXD2307R(SONY)FLAT PACKAGE

C-MOS 10-BIT 50MSPS RGB 3CHANNEL D/A CONVERTER

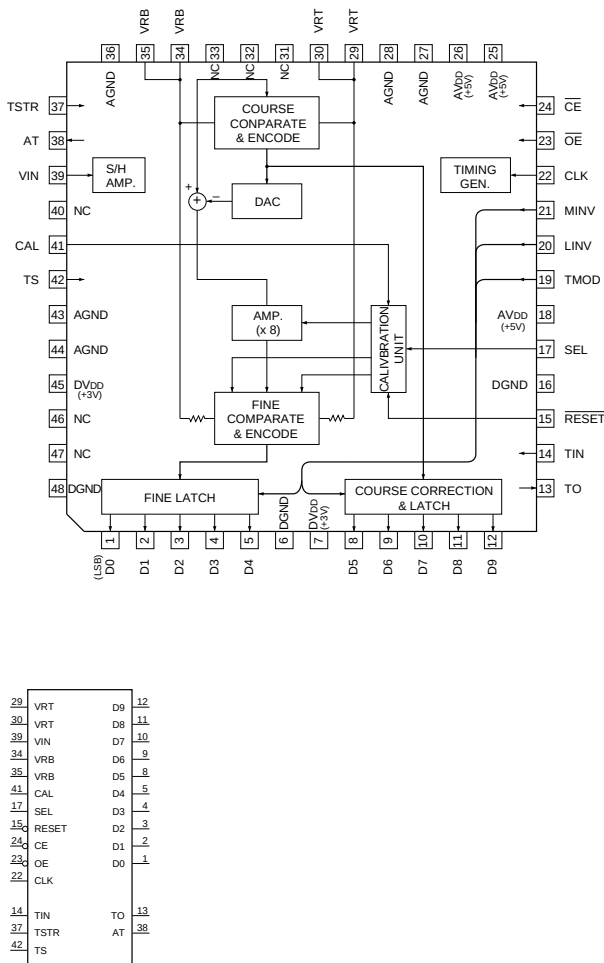
— TOP VIEW —



CXD2310R(SONY)

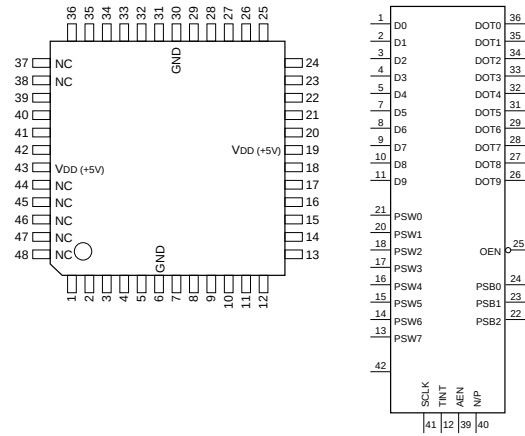
C-MOS 10-BIT 20MSPS VIDEO A/D CONVERTER

—TOP VIEW—



INPUT	
CAL	; CALIBRATION PULSE INPUT
CE	; CHIP ENABLE
CLK	; CLOCK
LINV	; OUTPUT (D0-D8) INVERSION
MINV	; OUTPUT (D9) INVERSION
OE	; DIGITAL DATA OUTPUT ENABLE
RESET	; CALIBRATION CIRCUIT RESET
SEL	; OUTPUT DATA (D5-D9) SELECT FOR CALIBRATION (4-CLOCK) HIGH; THROUGH OUTPUT, LOW; DATA FIXED AS WITH D0-D4
TIN	; TEST SIGNAL INPUT
TMOD	; TEST MODE
TS	; TEST SIGNAL INPUT
TSTR	; TEST SIGNAL INPUT
VRB	; REFERENCE BOTTOM VOLTAGE
VRT	; REFERENCE TOP VOLTAGE
 OUTPUT	
AT	; TEST SIGNAL OUTPUT
D0-D9	; DIGITAL DATA OUTPUT
TO	; TEST PIN

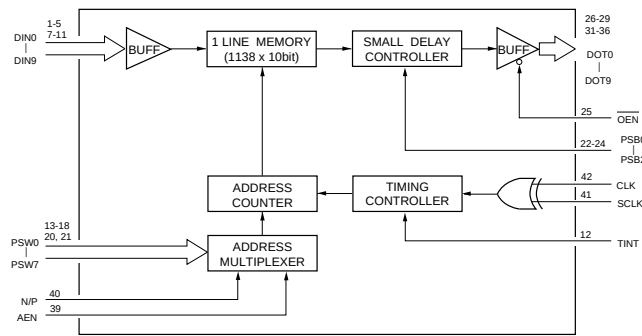
CXX1203AR(SONY)FLAT PACKAGE

C-MOS DIGITAL LINE MEMORY
—TOP VIEW—

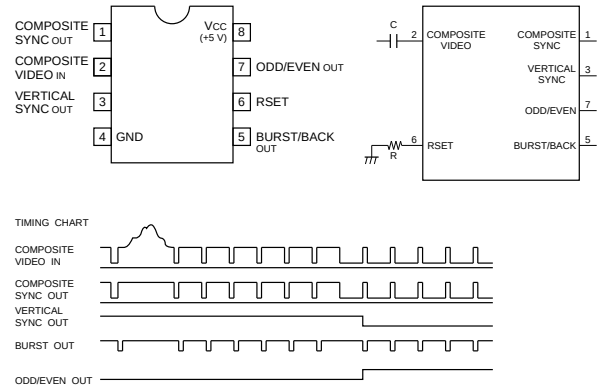
(VDD = +5V)

PIN NO.	I/O	SIGNAL	PIN NO.	I/O	SIGNAL	PIN NO.	I/O	SIGNAL	PIN NO.	I/O	SIGNAL
1	I	D0	13	I	PSW7	25	I	OEN	37	—	N.C
2	I	D1	14	I	PSW6	26	O	DOT9	38	—	N.C
3	I	D2	15	I	PSW5	27	O	DOT8	39	I	AEN
4	I	D3	16	I	PSW4	28	O	DOT7	40	I	N/P
5	I	D4	17	I	PSW3	29	O	DOT6	41	I	SCLK
6	—	GND	18	I	PSW2	30	—	GND	42	I	CLK
7	I	D5	19	—	VDD	31	O	DOT5	43	—	VDD
8	I	D6	20	I	PSW1	32	O	DOT4	44	—	N.C
9	I	D7	21	I	PSW0	33	O	DOT3	45	—	N.C
10	I	D8	22	I	PSB2	34	O	DOT2	46	—	N.C
11	I	D9	23	I	PSB1	35	O	DOT1	47	—	N.C
12	I	TINT	24	I	PSB0	36	O	DOT0	48	—	N.C

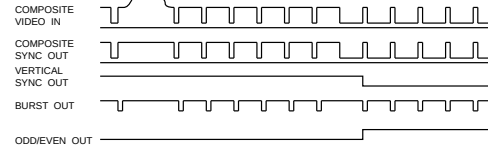
AEN : LINE MEMORY SELECT
 CLK : CLOCK
 DIN0-DIN9 : VIDEO DATA INPUT
 DOT0-DOT9 : VIDEO DATA OUTPUT
 N/P : NTSC/PAL/SECAM SELECT
 OEN : OUTPUT ENABLE
 PSB0-PSB2 : DELAY STEP SELECT (1 BITXN)
 PSW0-PSW7 : DELAY STEP SELECT (8 BITXN)
 SCLK : CLOCK EDGE SELECT
 TINT : TEST



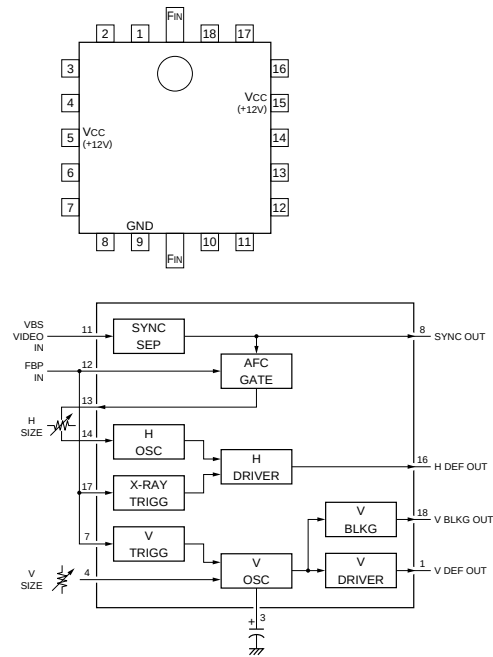
EL4581CS(ELT)FLAT PACKAGE

VIDEO SYNC SEPARATOR
—TOP VIEW—

TIMING CHART

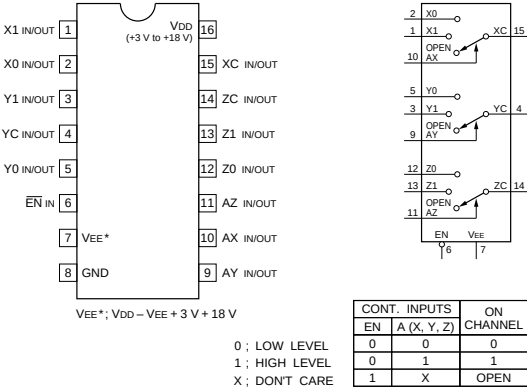


HA11423MP(HITACHI)FLAT PACKAGE

TV H/V SYNC SIGNAL PROCESSOR
—TOP VIEW—

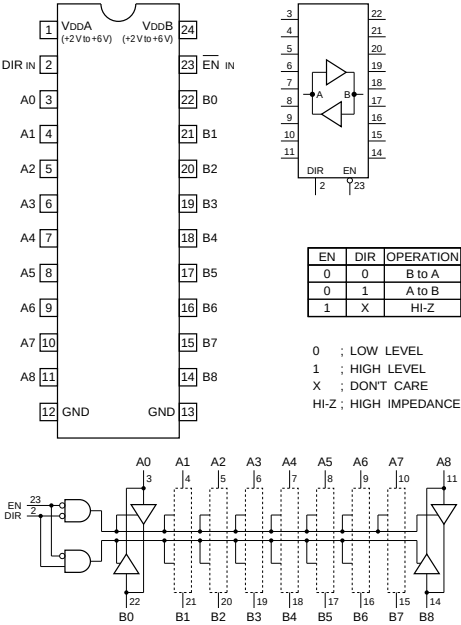
HD14053BFP(HITACHI)FLAT PACKAGE

C-MOS TRIPLE 2-CHANNEL ANALOG MULTIPLEXERS/DEMULTIPLEXERS
— TOP VIEW —



HD151015T(HITACHI)FLAT PACKAGE

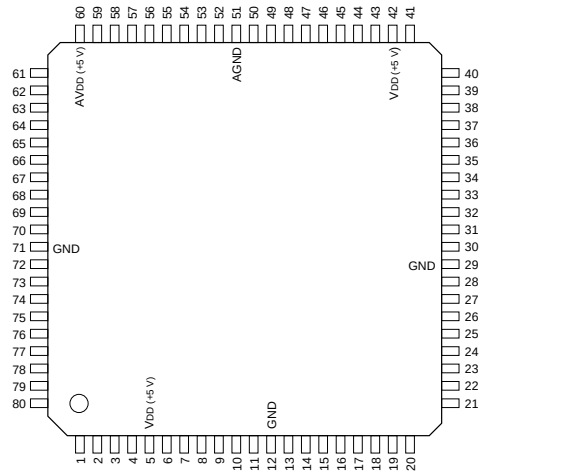
C-MOS 9-BIT LEVEL SHIFTER/TRANSCIEVER WITH 3-STATE OUTPUTS
— TOP VIEW —



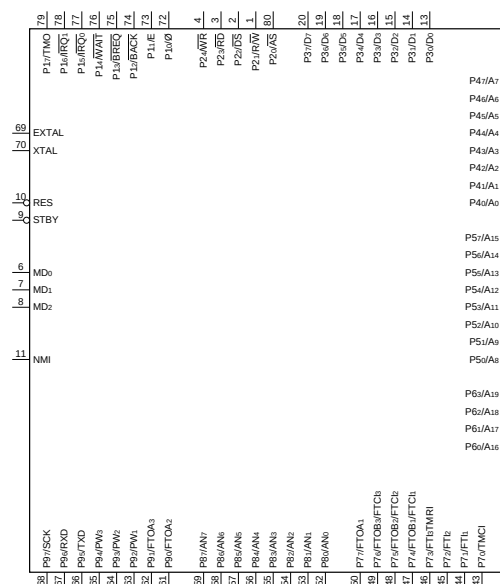
HD6475328F10(HITACHI)

C-MOS 16-BIT MICROPROCESSOR

— TOP VIEW —



PIN No.	I/O	SIGNAL	PIN No.	I/O	SIGNAL	PIN No.	I/O	SIGNAL
1	I/O	P21/R/W	28	I/O	P47/A7	55	I/O	P83/AN3
2	I/O	P22/DS	29	I/O	GND	56	I/O	P84/AN4
3	I/O	P23/RD	30	I/O	P50/A8	57	I/O	P85/AN5
4	I/O	P24/WR	31	I/O	P51/A9	58	I/O	P86/AN6
5	—	VDD	32	I/O	P52/A10	59	I/O	P87/AN7
6	I	MD0	33	I/O	P53/A11	60	—	AVDD
7	I	MD1	34	I/O	P54/A12	61	I/O	P90/FTOA2
8	I	MD2	35	I/O	P55/A13	62	I/O	P91/FTOA3
9	I	STBY	36	I/O	P56/A14	63	I/O	P92/PW1
10	I	RES	37	I/O	P57/A15	64	I/O	P93/PW2
11	I	NMI	38	I/O	P60/A16	65	I/O	P94/PW3
12	—	GND	39	I/O	P61/A17	66	I/O	P95/TXD
13	I/O	P30/D0	40	I/O	P62/A18	67	I/O	P96/RXD
14	I/O	P31/D1	41	I/O	P63/A19	68	I/O	P97/SCK
15	I/O	P32/D2	42	—	VDD	69	I	EXTAL
16	I/O	P33/D3	43	I/O	P70/TMCI	70	I	VSS
17	I/O	P34/D4	44	I/O	P71/FTI1	71	—	XTAL
18	I/O	P35/D5	45	I/O	P72/FTI2	72	I/O	P10/θ
19	I/O	P36/D6	46	I/O	P73/FTI3/TMRI	73	I/O	P11/E
20	I/O	P37/D7	47	I/O	P74/FTOB1/FTCI1	74	I/O	P12/BACK
21	I/O	P40/A0	48	I/O	P75/FTOB2/FTCI2	75	I/O	P12/BREQ
22	I/O	P41/A1	49	I/O	P76/FTOB3/FTCI3	76	I/O	P12/WAIT
23	I/O	P42/A2	50	O	P77/FTOA1	77	I/O	P12/IRQ0
24	I/O	P43/A3	51	—	AGND	78	I/O	P12/IRQ1
25	I/O	P44/A4	52	I/O	P80/AN0	79	I/O	P12/TMO
26	I/O	P45/A5	53	I/O	P81/AN1	80	I/O	P12/AS
27	I/O	P46/A6	54	I/O	P82/AN2			

BVP-500
BVP-500P

INPUT

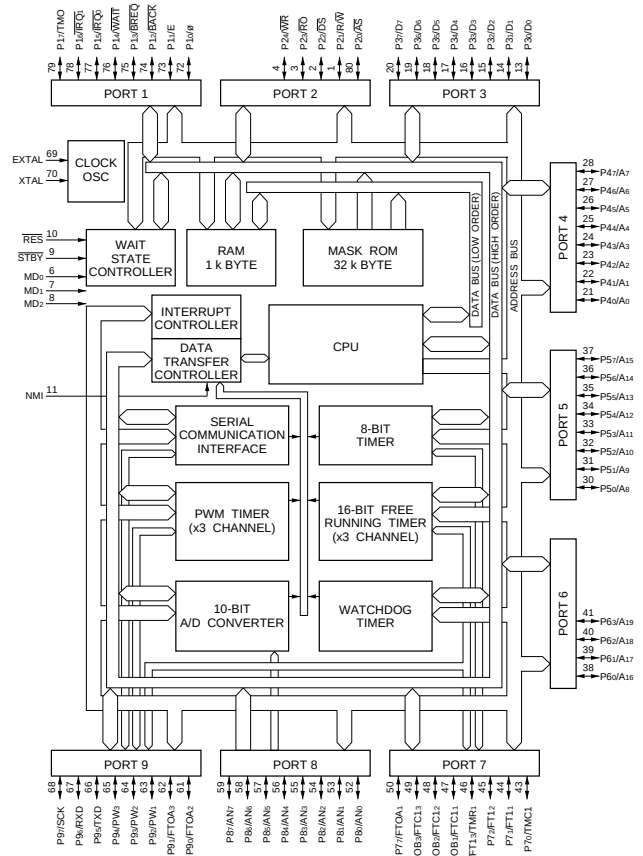
AN0-AN7 : ANALOG INPUT
BREQ : BUS REQUEST
EXTAL : CONNECTED TO CRYSTAL OSCILLATOR.
ETCI1-FTCI3 : FRT COUNTER CLOCK INPUT (CHANNEL 1 TO 3)
FTI1-FTI3 : FRT INPUT CAPTURE INPUT (CHANNEL 1 TO 3)
IRQ0, 1 : INTERRUPTION REQUEST 0 AND 1
MD0-MD2 : MODE SETTING
NMI : NON MASKABLE INTERRUPTION
P80-P87 : PORT 8
RES : RESET
RXD : RECEIVE DATA
STBY : STANDBY
TMCI : 8-BIT TIMER CLOCK INPUT
TMRI : 8-BIT TIMER COUNTER RESET INPUT
WAIT : WAIT
XTAL : CONNECTED TO CRYSTAL OSCILLATOR.

OUTPUT

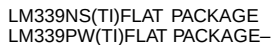
A0-A19 : ADDRESS BUS
AS : ADDRESS STROBE
BACK : BUS REQUEST ACKNOWLEDGE
DS : DATA STROBE
E : ENABLE CLOCK
FTOA1-FTOA3 : FRT OUTPUT COMPARE A OUTPUT (CHANNEL 1 TO 3)
FTOB1-FTOB3 : FRT OUTPUT COMPARE B OUTPUT (CHANNEL 1 TO 3)
PW1-PW3 : PWM TIMER OUTPUT (CHANNEL 1 TO 3)
R/W : READ/WRITE
RD : READ
TMO : 8-BIT TIMER OUTPUT
TXD : SEND DATA
WR : WRITE
θ : SYSTEM CLOCK

INPUT/OUTPUT

D0-D7 : DATA BUS
P10-P17 : PORT 1
P20-P24 : PORT 2
P30-P37 : PORT 3
P40-P47 : PORT 4
P50-P57 : PORT 5
P60-P63 : PORT 6
P70-P77 : PORT 7
P90-P97 : PORT 9
SCK : SERIAL CLOCK INPUT/OUTPUT



IF AMP, LIMITTER, DETECTOR, MUTING, + FM CS
— PRINTED SIDE VIEW —

LM358PS(TI)FLAT PACKAGE
UPC358G2(NEC)FLAT PACKAGE

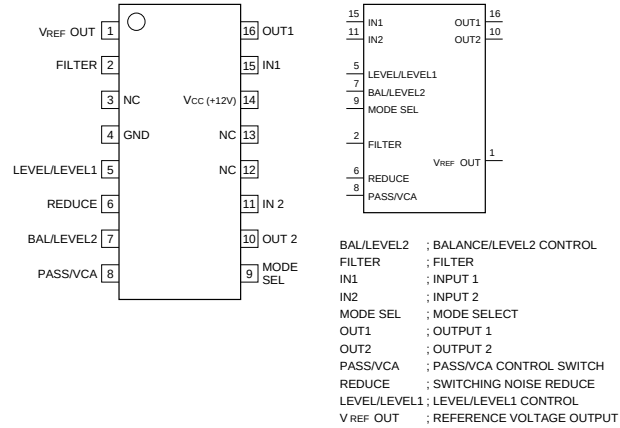
A0 - A17 ; ADDRESS INPUTS
Q0 - Q7 ; DATA OUTPUTS
E₁ ; CHIP ENABLE INPUT
G₁ ; OUTPUT ENABLE INPUT
P₁ ; PROGRAM INPUT
V_{PP} ; PROGRAM SUPPLY (12.75 V)

MODE	E	G	E	E	E	Q0-Q7
READ	0	0	X	X	X	DATA OUT
OUTPUT DISABLE	0	1	X	X	X	Hi-Z
PROGRAM	0	1	$\overline{1}$	X	Vpp	DATA IN
VERIFY	0	0	1	X	Vpp	DATA OUT
PROGRAM INHIBIT	1	X	X	X	Vpp	Hi-Z
STANDBY	1	X	X	X	X	Hi-Z
ELECTRONIC SIGNATURE	0	0	1	Vid	Vdd	CODES

0	; INPUT LOW VOLTAGE
1	; INPUT HIGH VOLTAGE
X	; DON'T CARE
V _{id}	; 12 V ± 0.5 V
HI-Z	; HIGH IMPEDANCE

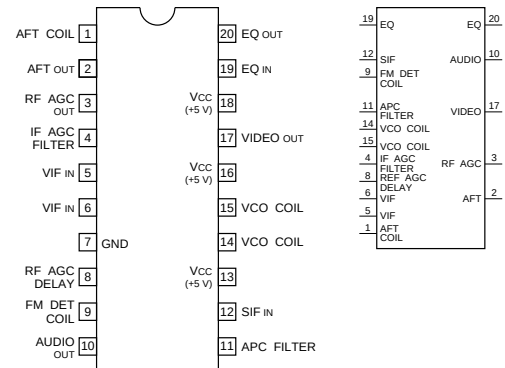
M51132FP(MITSUBISHI)FLAT PACKAGE

2-CHANNEL ELECTRONIC LEVEL CONTROL — TOP VIEW —



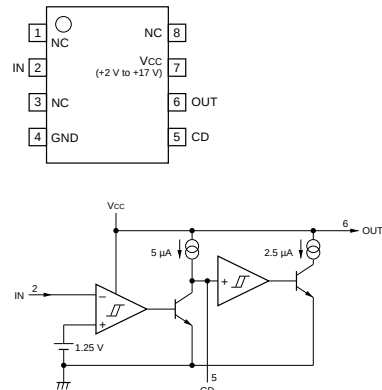
M52313SP(MITSUBISHI)

PLL VIF/SIF — TOP VIEW —



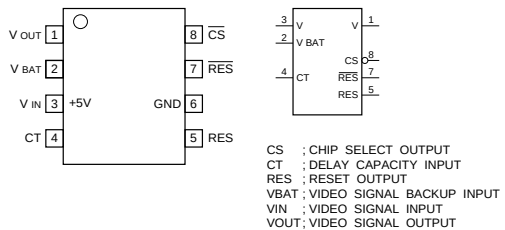
M51958A(MITSUBISHI)FLAT PACKAGE

VOLTAGE DETECT DELAY — TOP VIEW —



M62021FP(MITSUBISHI)FLAT PACKAGE

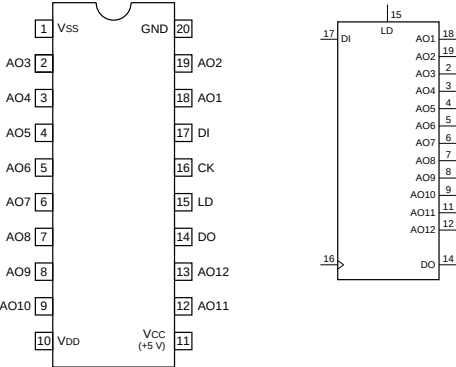
SELECTION SW BUILT-IN SYSTEM RESET — TOP VIEW —



M62352GP(MITSUBISHI)FLAT PACKAGE

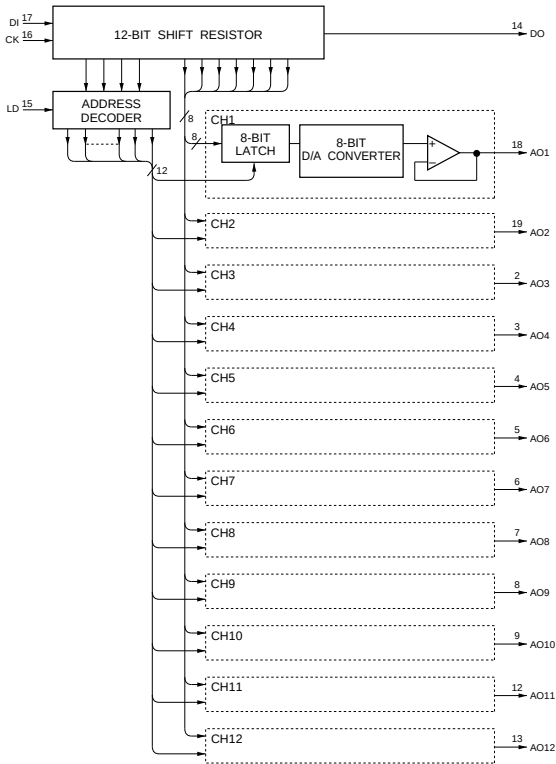
C-MOS 8-BITx12 CHANNEL D/A CONVERTER
(WITH BUFFER OPERATIONAL AMPLIFIER)

— TOP VIEW —



AO1-AO12 : 8-BIT D/A OUTPUTS
CK : CLOCK INPUT
DI : SERIAL DATA INPUT
DO : DATA OUTPUT

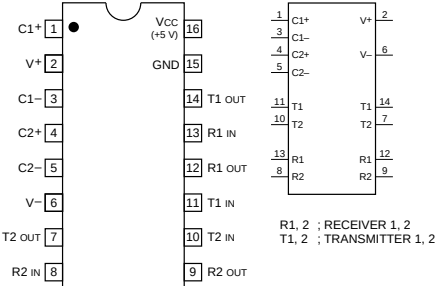
NOTE:
3.5 V < VDD < VCC
-3.5 V < VSS < VCC



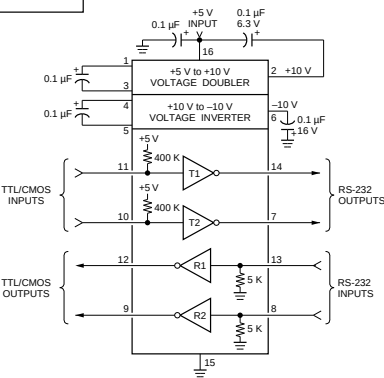
MAX202CSE(MAXIM)

RS-232 TRANSMITTER/RECEIVER

— TOP VIEW —



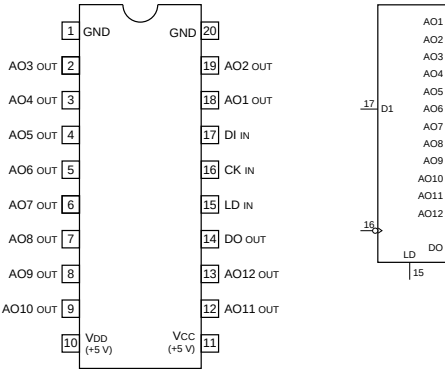
R1, 2 ; RECEIVER 1, 2
T1, 2 ; TRANSMITTER 1, 2



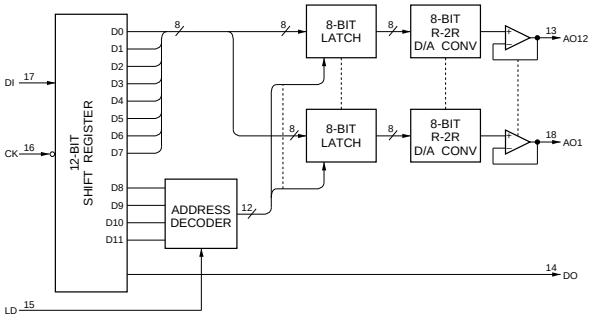
MB88346BPFV(FUJITSU)FLAT PACKAGE(SMALL)

C-MOS 8-BIT D/A CONVERTER

— TOP VIEW —

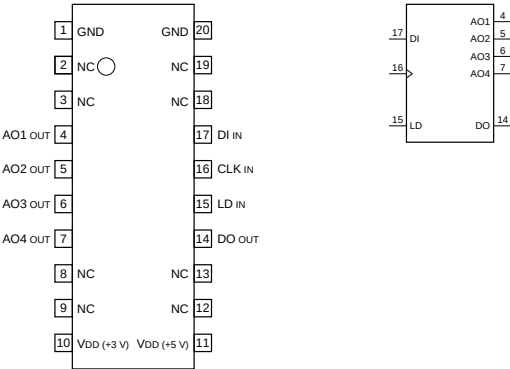


AO1 - AO12 : 8-BIT D/A OUTPUTS
CK : CLOCK INPUT
DI : SERIAL DATA INPUT
DO : DATA OUTPUT
LD : DATA LOAD CONTROL INPUT (H ; LOAD)



MB88351PFV(FUJITSU)FLAT PACKAGE

C-MOS 12-BIT D/A CONVERTER WITH OPERATIONAL AMPLIFIER
— TOP VIEW —

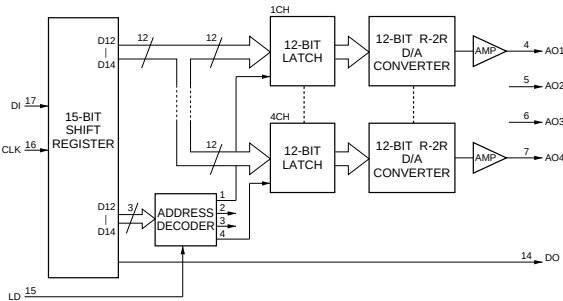


INPUT
CLK : SHIFT CLOCK
DI : SERIAL DATA
LD : DECODER AND D/A REGISTER TO LOAD

OUTPUT
AO1-AO4 : ANALOG DATA
DO : MBS BIT DATA IN 15-BIT SHIFT REGISTER

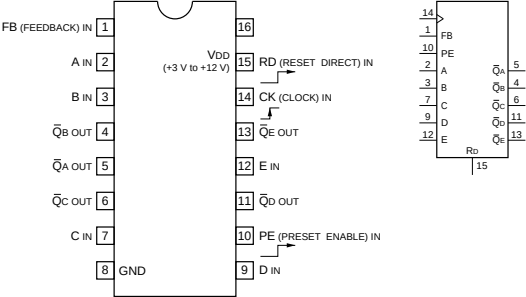
D12	D13	D14	ADDRESS SELECT
0	0	0	DON'T CARE
0	0	1	AO1 SELECT
0	1	0	AO2 SELECT
0	1	1	AO3 SELECT
1	0	0	AO4 SELECT
1	0	1	DON'T CARE
1	1	0	DON'T CARE
1	1	1	DON'T CARE

0 : LOW LEVEL
1 : HIGH LEVEL



MC14018BF(MOTOROL)FLAT PACKAGE

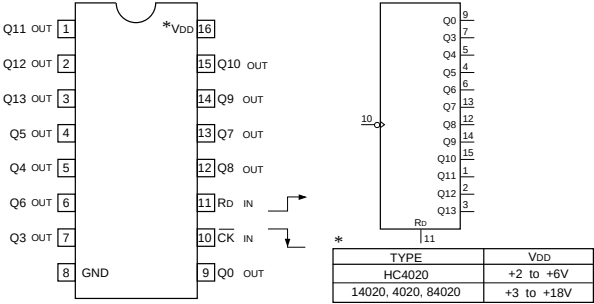
C-MOS PRESETTABLE DIVIDE-BY-N COUNTER
— TOP VIEW —



DIVIDE BY	CONNECT TO FB INPUT	VIA	RESULTS FROM EACH Q̄ OUTPUT
10	Q̄E	DIRECT	5 COUNTS HIGH, 5 COUNTS LOW
9	Q̄D, Q̄E	AND GATE	5 COUNTS HIGH, 4 COUNTS LOW
8	Q̄D	DIRECT	4 COUNTS HIGH, 4 COUNTS LOW
7	Q̄C, Q̄D	AND GATE	4 COUNTS HIGH, 3 COUNTS LOW
6	Q̄C	DIRECT	3 COUNTS HIGH, 3 COUNTS LOW
5	Q̄B, Q̄C	AND GATE	3 COUNTS HIGH, 2 COUNTS LOW
4	Q̄B	DIRECT	2 COUNTS HIGH, 2 COUNTS LOW
3	Q̄A, Q̄B	AND GATE	2 COUNTS HIGH, 1 COUNTS LOW
2	Q̄A	DIRECT	1 COUNTS HIGH, 1 COUNTS LOW

MC14020BF(MOTOROLA)FLAT PACKAGE

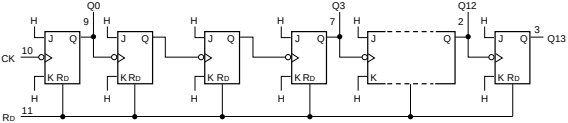
C-MOS 14-STAG RIPPLE-CARRY BINARY COUNTER/DRIVER
—TOP VIEW—



COUNT	BINARY OUTPUTS												
	Q13	Q12	Q11	Q10	Q9	Q8	Q7	Q6	Q5	Q4	Q3	Q2	Q1
0	0000	0	0	0	0	0	0	0	0	0	0	0	0
1	0001	0	0	0	0	0	0	0	0	0	0	0	1
2	0002	0	0	0	0	0	0	0	0	0	0	0	0
3	0003	0	0	0	0	0	0	0	0	0	0	0	1
4	0004	0	0	0	0	0	0	0	0	0	0	0	0
...	...	...	...	...	...	...	...	...	...	...	...	...	...
16380	4FFC	1	1	1	1	1	1	1	1	1	1	1	0
16381	4FFD	1	1	1	1	1	1	1	1	1	1	1	1
16382	4FFE	1	1	1	1	1	1	1	1	1	1	1	0
16383	4FFF	1	1	1	1	1	1	1	1	1	1	1	1

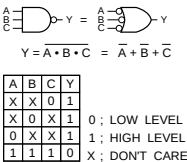
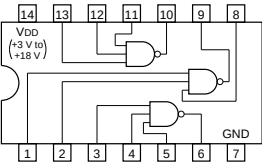
IN HEXADECIMAL
IN DECIMAL
0 : LOW LEVEL
1 : HIGH LEVEL

RD	Q13-Q0
1	ALL LOW
0	COUNT



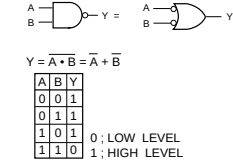
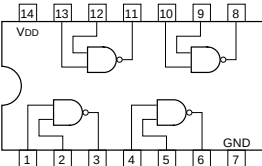
MC14023BF(MOTOROLA)FLAT PACKAGE

C-MOS 3-INPUT NAND GATE
— TOP VIEW —



MC74HC00AF(MOTOROLA)FLAT PACKAGE
TC74HC00AF(TOSHIBA)FLAT PACKAGE
TC74VHC00F(EL)(TOSHIBA)FLAT PACKAGE(SMALL)

C-MOS QUAD 2-INPUT NAND GATES
—TOP VIEW—

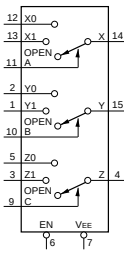
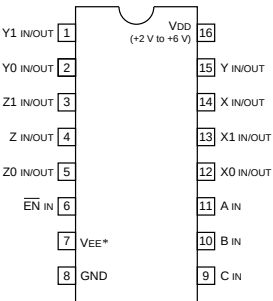


NOTE:

TYPE	VDD
TC74AC00 TYPE	+2 to +5.5V
TC74VHC00	+5V
MC74HCT00N	+5V
74ACT00 TYPE	+4.5 to +5.5V
OTHER TYPES	+2 to +6V

MC74HC4053F(MOTOROLA)FLAT PACKAGE
TC74HC4053AFS(TOSHIBA)FLAT PACKAGE

C-MOS TRIPLE 2-CHANNEL ANALOG MULTIPLEXER/DEMULTIPLEXER
— TOP VIEW —



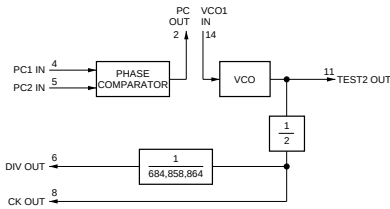
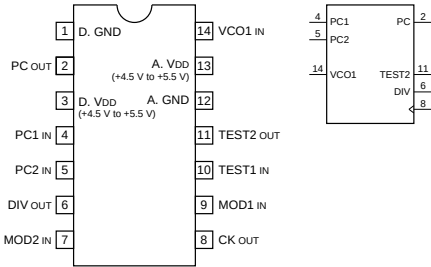
VEE*, VDD - VEE = +3 V to +12 V
VEE ± GND

CONTROL INPUTS				ON CHANNEL		
EN	SELECT					
	C	B	A	Z0	Y0	X0
0	0	0	0	Z0	Y0	X0
0	0	0	1	Z0	Y0	X1
0	0	1	0	Z0	Y1	X0
0	0	1	1	Z0	Y1	X1
0	1	0	0	Z1	Y0	X0
0	1	0	1	Z1	Y0	X1
0	1	1	0	Z1	Y1	X0
0	1	1	1	Z1	Y1	X1
1	X	X	X	OPEN		

0 ; LOW LEVEL
1 ; HIGH LEVEL
X ; DON'T CARE

MN6790S(MATSUSHITA)

C-MOS CLOCK GENERATOR
— TOP VIEW —



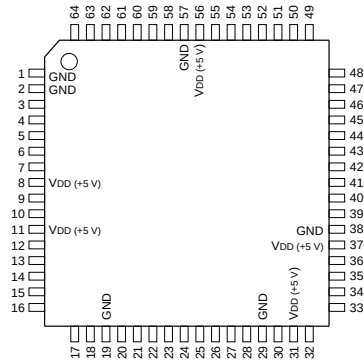
MOD1	MOD2	FREQUENCY RATIO	VCO	MOTE
0	0	1/684	OSCILLATION	—
1	0	1/858		
0	1	1/864	STANDSTILL	CK = DIV = L
1	1	—		

0 ; LOW LEVEL
1 ; HIGH LEVEL

MN8232A(MATSUSHITA)

PICTURE IN PICTURE/PICTURE OUT PICTURE CONTROLLER

— TOP VIEW —

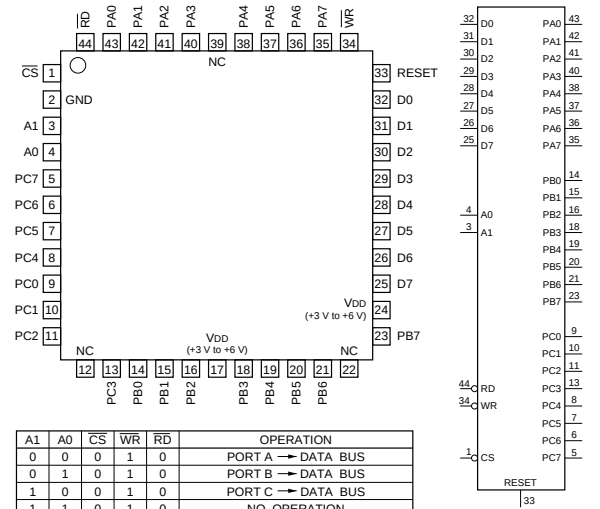


PIN No.	I/O	SIGNAL	PIN No.	I/O	SIGNAL	PIN No.	I/O	SIGNAL	PIN No.	I/O	SIGNAL
1	—	GND	17	O	RY	33	O	YS	49	O	RAS
2	—	GND	18	O	BY	34	I	HP	50	O	WE
3	—	VRB	19	—	GND	35	O	PPC	51	O	DT
4	I	TEST0	20	I	RST	36	I	PVC	52	O	SC
5	I	Y	21	I	SCL	37	—	VDD	53	I	LEV1
6	I	RY	22	O	SDA	38	—	GND	54	I	LEV0
7	I	BY	23	I	VPD	39	O	A0	55	I	DI3
8	—	VDD	24	I	VCD	40	O	A1	56	—	VDD
9	—	VRT	25	I	CKCNT	41	O	A2	57	—	GND
10	I	TEST1	26	I	CVC	42	O	A3	58	I	DI2
11	—	VDD	27	O	CPC	43	O	A4	59	I	DI1
12	I	IREF	28	I	HC	44	O	A5	60	I	DI0
13	I	VREF	29	—	GND	45	O	A6	61	I/O	DO3
14	O	Y	30	I	IREFVC	46	O	A7	62	I/O	DO2
15	I	COMP	31	—	VDD	47	O	A8	63	I/O	DO1
16	I	VIB	32	O	CLAMP	48	O	CAS	64	I/O	DO0

MSM82C55A-2GS(OKI)FLAT PACKAGE

C-MOS PROGRAMMABLE PERIPHERAL INTERFACE

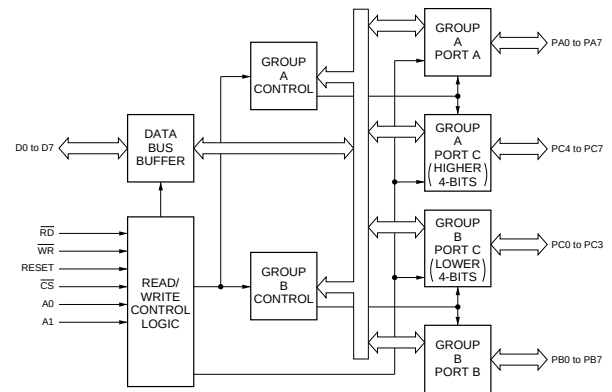
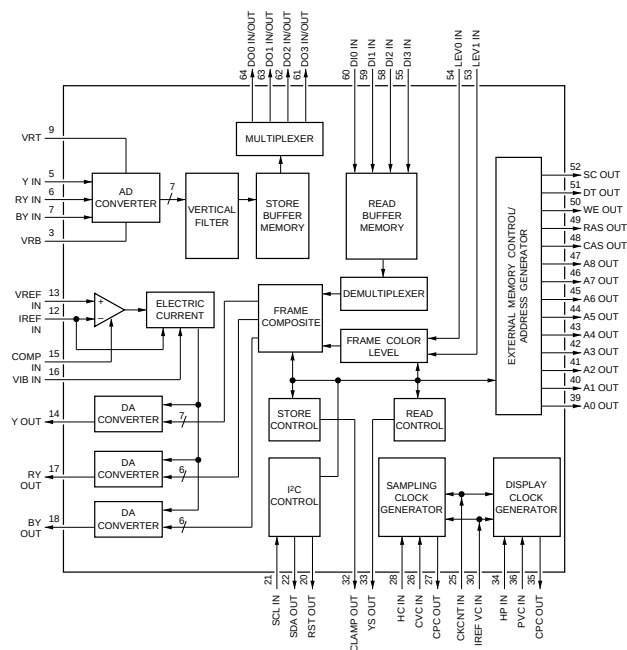
— TOP VIEW —



A1	A0	CS	WR	RD	OPERATION
0	0	0	1	0	PORT A → DATA BUS
0	1	0	1	0	PORT B → DATA BUS
1	0	0	1	0	PORT C → DATA BUS
1	1	0	1	0	NO OPERATION
0	0	0	0	1	DATA BUS → PORT A
0	1	0	0	1	DATA BUS → PORT B
1	0	0	0	1	DATA BUS → PORT C
1	1	0	0	1	DATA BUS → CONTROL REGISTER
X	X	1	X	X	HIGH IMPEDANCE

0 ; LOW LEVEL
1 ; HIGH LEVEL
X ; DON'T CARE

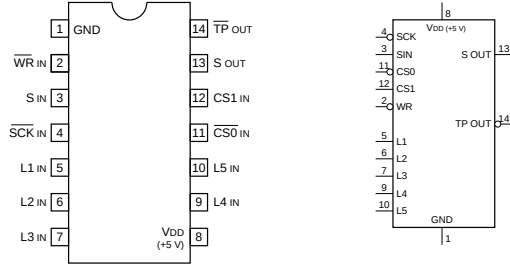
A0, A1 ; PORT SELECT ADDRESS
CS ; CHIP SELECT
D0 to 7 ; DATA BUS
PA0 to 7 ; PORT A IN/OUT
PB0 to 7 ; PORT B IN/OUT
PC0 to 7 ; PORT C IN/OUT
RD ; READ
WR ; WRITE



RTC4553B(EPSON)

C-MOS REAL TIME CLOCK

—TOP VIEW—

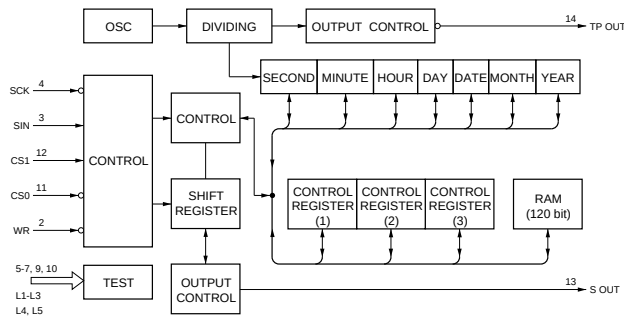


INPUT

CS0 : CHIP SELECT (L: ACCESS ENABLE, H: SOUT HIGH Z)
 CS1 : POWER DOWN DETECTION
 L1-L5 : TEST IN
 SCK : SERIAL SYNC SIGNAL
 SIN : SERIAL ADDRESS/DATA
 WR : WRITING SELECT (L: WRITING, H: READING)

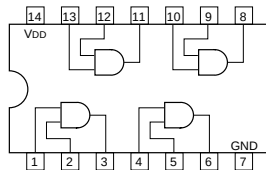
OUTPUT

SOUT : SERIAL ADDRESS/DATA
 TPOUT : REFERENCE SIGNAL


 SN74HC08ANS(TI)FLAT PACKAGE
 SN74HC08APW(TI)FLAT PACKAGE
 TC74VHC08FS(EL)(TOSHIBA)FLAT PACKAGE(SMALL)

C-MOS QUAD 2-INPUT AND GATES

—TOP VIEW—



$$A \text{ AND } B = Y$$

$$Y = A \cdot B = \overline{\overline{A} \cdot \overline{B}}$$

A	B	Y
0	0	0
0	1	0
1	0	0
1	1	1

0: LOW LEVEL
 1: HIGH LEVEL

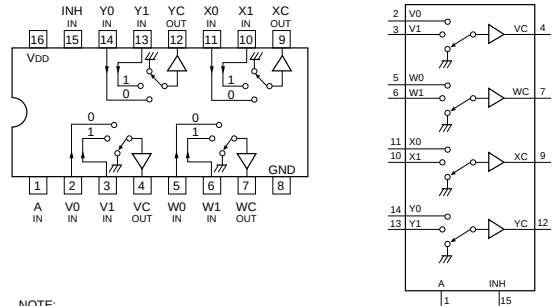
NOTE:

TYPE	V _{DD}
TC74AC08 TYPE	+2 to +5.5V
MC74ACT08M	+2 to +8V
TC40H	+2 to +6V
OTHER TYPES	+2 to +6V

 SN74HC157APW(TI)FLAT PACKAGE
 TC74VHC157FS(TOSHIBA)FLAT PACKAGE(SMALL)

C-MOS QUAD 2-LINE-TO-1-LINE DATA SELECTOR/ DEMULTIPLEXER

—TOP VIEW—



NOTE:

TYPE	V _{DD}
74ACT74FCT	+5V
TC74AC157P	+2 to +5.5V
TC74AC157	+2 to +8V
TC40H	+2 to +6V
OTHER TYPES	+2 to +6V

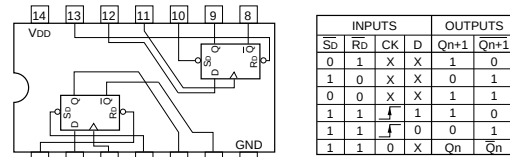
CONT.IN	ON CHANNEL
INH	A
0	0
0	1
1	X

0: LOW LEVEL
 1: HIGH LEVEL
 X: DON'T CARE

 SN74HC74ANS(TI)FLAT PACKAGE
 TC74VHC74F(TOSHIBA)FLAT PACKAGE
 TC74VHC74FS(EL)(TOSHIBA)FLAT PACKAGE(SMALL)

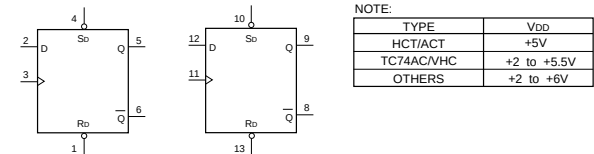
C-MOS DUAL D-TYPE FLIP-FLOPS WITH DIRECT SET/RESET

—TOP VIEW—



INPUTS				OUTPUTS	
Sb	Rd	CK	D	Qn+1	Qn+1
0	1	X	X	1	0
1	0	X	X	0	1
0	0	X	X	1	1
1	1	1	1	1	0
1	1	1	0	0	1
1	1	0	X	Qn	Qn

0: LOW LEVEL
 1: HIGH LEVEL
 X: DON'T CARE



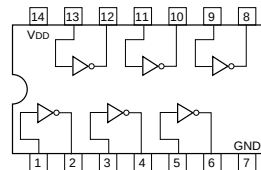
NOTE:

TYPE	V _{DD}
HCT/ACT	+5V
TC74AC/VHC	+2 to +5.5V
OTHERS	+2 to +6V

 SN74HCT04APW(TOSHIBA)FLAT PACKAGE
 TC74VHC04FS(EL)(TOSHIBA)FLAT PACKAGE(SMALL)

C-MOS HEX INVERTERS

—TOP VIEW—



$$A \text{ NOT } Y = \overline{A}$$

$$Y = \overline{A}$$

A	Y
0	1
1	0

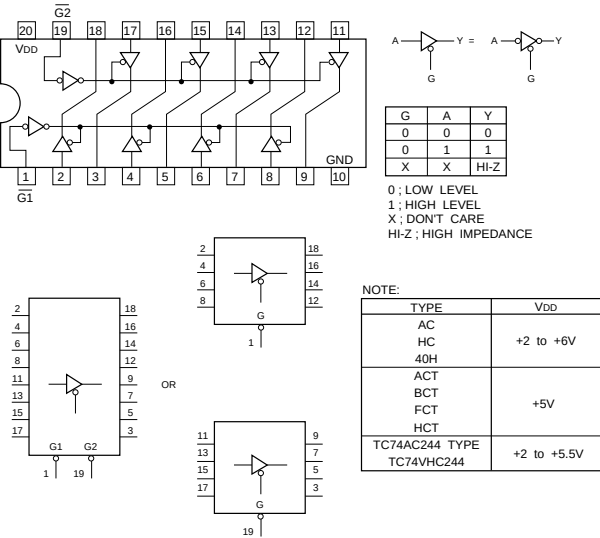
0: LOW LEVEL
 1: HIGH LEVEL

NOTE:

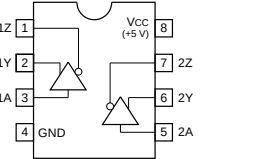
TYPE	V _{DD}
74HCT04 TYPE	+5V
TC74AC04 TYPE	+2 to +5.5V
TC74VHC04 TYPE	+4.5 to +5.5V
OTHER TYPES	+2 to +6V

SN74HCT244APW-E05(TI)FLAT PACKAGE
TC74VHC244FS(EL)(TOSHIBA)FLAT PACKAGE(SMALL)

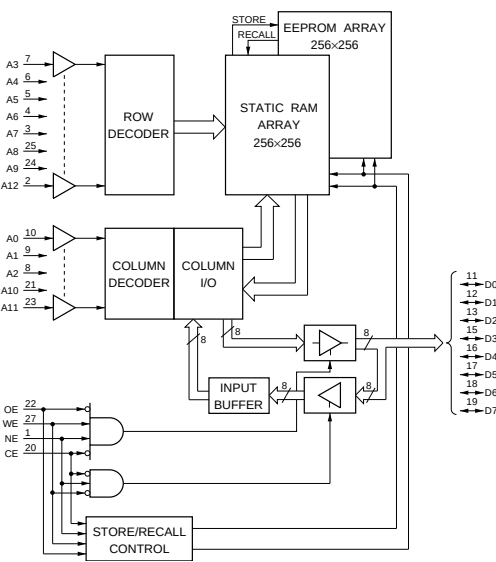
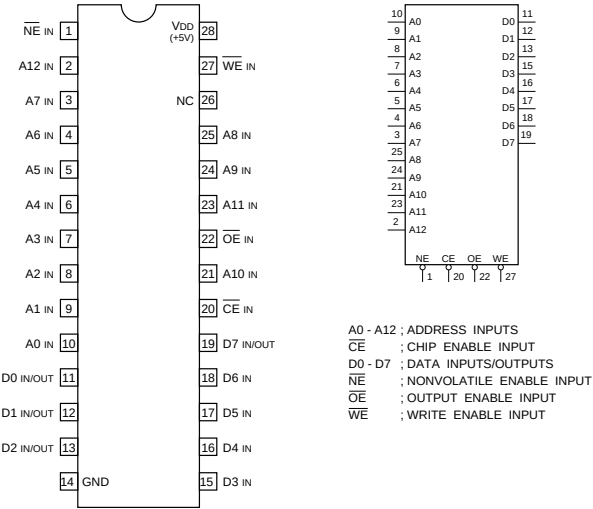
C-MOS BUS BUFFER WITH 3-STATE OUTPUTS
—TOP VIEW—



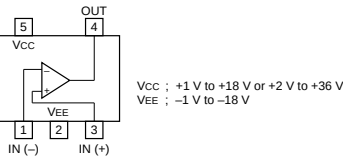
SN75158PS(TI)
DUAL DIFFERENTIAL LINE DRIVE
— TOP VIEW —



STK10C68-5S35(SIMTEK)FLAT PACKAGE
C-MOS 8Kx8-BIT NONVOLATILE STATIC RAM
—TOP VIEW—

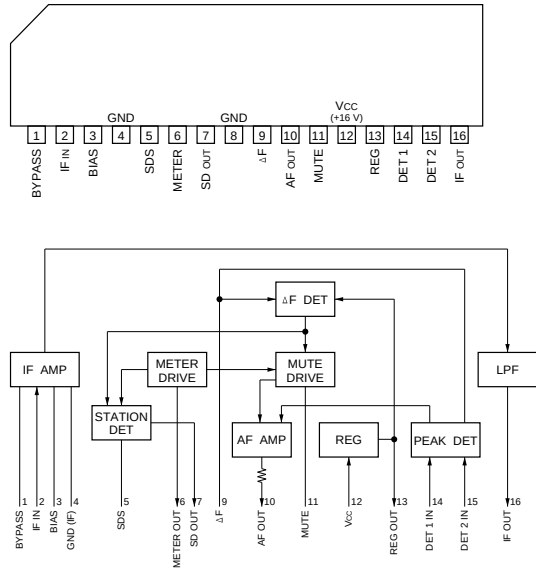


TA75S393F(TOSHIBA)
SINGLE COMPARATOR
— TOP VIEW —



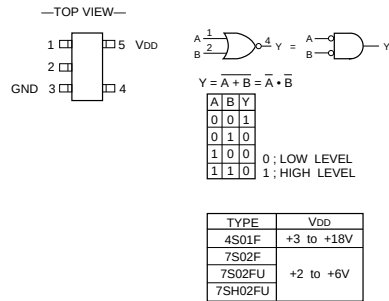
TA8129Z(TOSHIBA)

FM IF SYSTEM (DIFFERENTIAL PEAK DETECT)
— SIDE VIEW —



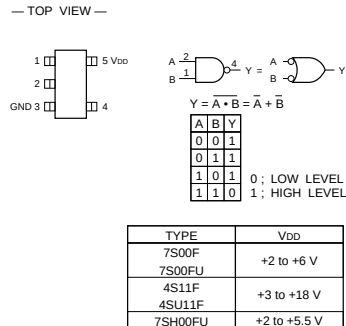
TC4S01F(TOSHIBA)CHIP PACKAGE TC7S02FU(TOSHIBA)CHIP PACKAGE TC7SH02FU(TOSHIBA)CHIP PACKAGE

C-MOS 2-INPUT NOR GATE



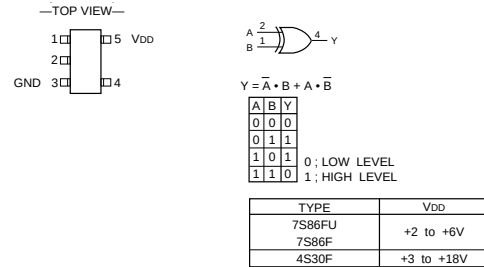
TC4S11F(TOSHIBA)CHIP PACKAGE TC7S00FU(TOSHIBA)CHIP PACKAGE

C-MOS 2-INPUT NAND GATE



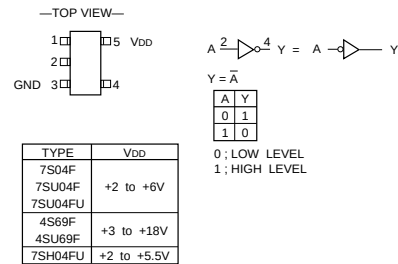
TC4S30F(TOSHIBA)CHIP PACKAGE TC7S86FU(TOSHIBA)CHIP PACKAGE

C-MOS 2-INPUT EXCLUSIVE OR GATE



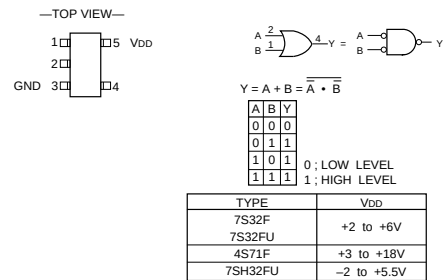
TC4S69F(TOSHIBA)CHIP PACKAGE TC4SU69F(TOSHIBA)CHIP PACKAGE TC7S04FU(TOSHIBA)CHIP PACKAGE TC7SH04FU(TOSHIBA)CHIP PACKAGE

C-MOS INVERTER



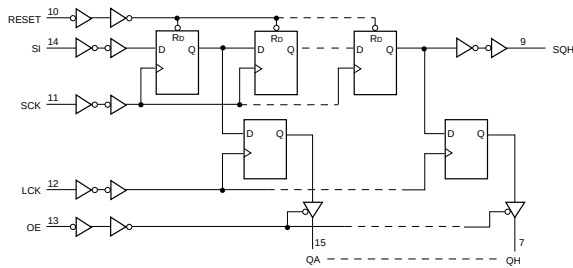
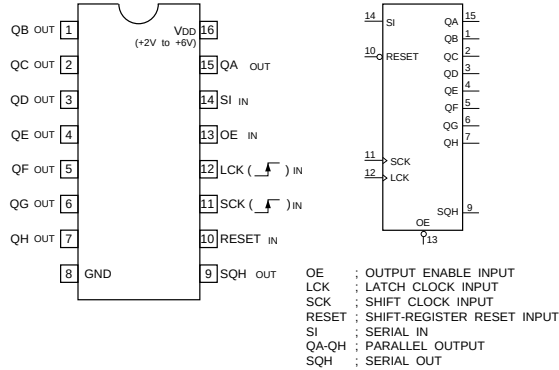
TC4S71F(TOSHIBA)CHIP PACKAGE TC7S32FU(TOSHIBA)CHIP PACKAGE TC7SH32FU(TOSHIBA)CHIP PACKAGE

C-MOS 2-INPUT OR GATE



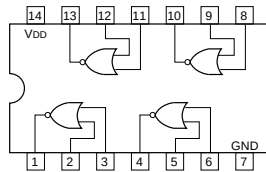
TC74HC595AF(TOSHIBA)FLAT PACKAGE

C-MOS 8-BIT SERIAL-INPUT/SERIAL- OR PARALLEL-OUTPUT
SHIFT REGISTER WITH LATCHED 3-STATE OUTPUT
—TOP VIEW—



TC74VHC02F(TOSHIBA)FLAT PACKAGE

C-MOS QUAD 2-INPUT NOR GATES
—TOP VIEW—



NOTE:

TYPE	VDD
HC	+2 to +6V
AC/VHC	+2 to +5.5V
HCT/ACT	+5V

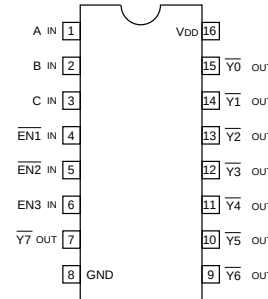
$$Y = \overline{A+B} = \overline{A} \cdot \overline{B}$$

A	B	Y
0	0	1
0	1	0
1	0	0
1	1	0

0 : LOW LEVEL
1 : HIGH LEVEL

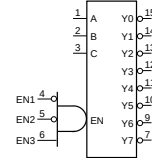
TC74VHC138FS(EL)(TOSHIBA)FLAT PACKAGE(SMALL)

C-MOS 3-TO-8 LINE DECODER / DEMULTIPLEXER
—TOP VIEW—



NOTE:

TYPE	VDD
74HCT138 TYPE	+5V
74ACT138 TYPE	+4.5 to +5.5V
TC74AC138 TYPE	+2 to +5.5V
TC74VHC138	+2 to +6V
OTHER TYPES	+2 to +6V



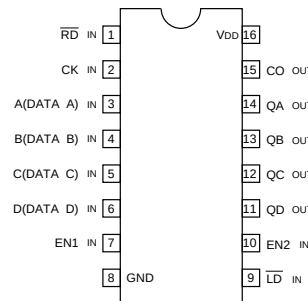
INPUTS				OUTPUTS							
EN	C	B	A	Y7	Y6	Y5	Y4	Y3	Y2	Y1	Y0
0	X	X	X	1	1	1	1	1	1	1	1
1	0	0	0	1	1	1	1	1	1	1	0
1	0	0	1	1	1	1	1	1	1	0	1
1	0	1	0	1	1	1	1	1	0	1	1
1	0	1	1	1	1	1	1	0	1	1	1
1	1	0	0	1	1	1	0	1	1	1	1
1	1	0	1	1	1	0	1	1	1	1	1
1	1	1	0	1	0	1	1	1	1	1	1
1	1	1	1	0	1	1	1	1	1	1	1

$$EN = EN1 \cdot EN2 \cdot EN3$$

0 : LOW LEVEL
1 : HIGH LEVEL
X : DON'T CARE

TC74VHC163F(TOSHIBA)FLAT PACKAGE

C-MOS PRESETTABLE SYNCHRONOUS 4-BIT BINARY COUNTER
—TOP VIEW—



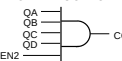
NOTE:

TYPE	VDD
HC	+2 to +6V
AC/VHC	+2 to +5.5V
HCT/ACT/FCT	+5V

MODE SELECTION

CONTROL INPUTS				MODE
RD	LD	EN1	EN2	
0	X	X	X	RESET (SYNCHRONOUS)
1	0	X	X	PRESET (SYNCHRONOUS)
1	1	0	X	NO COUNT
1	1	X	0	NO COUNT
1	1	1	1	COUNT

CARRY OUTPUT "CO"



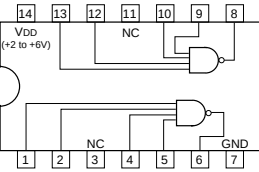
CO IS HIGH WHEN EN2 INPUT IS HIGH AND COUNT IS "15".

COUNT SEQUENCE

COUNT	QD	QC	QB	QA
0	0	0	0	0
1	0	0	0	1
2	0	0	1	0
3	0	0	1	1
4	0	1	0	0
5	0	1	0	1
6	0	1	1	0
7	0	1	1	1
8	1	0	0	0
9	1	0	0	1
10	1	0	1	0
11	1	0	1	1
12	1	1	0	0
13	1	1	0	1
14	1	1	1	0
15	1	1	1	1

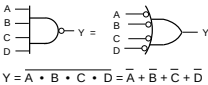
TC74VHC20F(TOSHIBA)FLAT PACKAGE

C-MOS 4-INPUT POSITIVE-NAND GATE
—TOP VIEW—



NOTE:

TYPE	V _{DD}
AC/VHC	+2 to +5.5V
HC	+2 to +6V



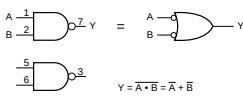
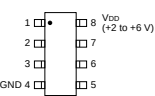
$Y = \overline{A \cdot B \cdot C \cdot D} = \overline{A} + \overline{B} + \overline{C} + \overline{D}$

A	B	C	D	Y
0	0	0	0	1
0	0	0	1	1
0	0	1	0	1
0	0	1	1	1
0	1	0	0	1
0	1	0	1	1
0	1	1	0	1
0	1	1	1	1
1	0	0	0	1
1	0	0	1	1
1	0	1	0	1
1	0	1	1	1
1	1	0	0	1
1	1	0	1	1
1	1	1	0	1
1	1	1	1	0

0; LOW LEVEL
1; HIGH LEVEL

TC7W00FU(TOSHIBA)CHIP PACKAGE

C-MOS 2-INPUT NAND GATE
— TOP VIEW —

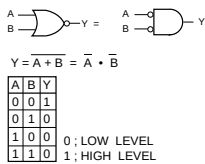
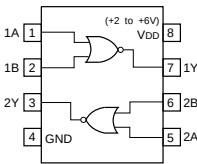


A	B	Y
0	0	1
0	1	1
1	0	1
1	1	0

0; LOW LEVEL
1; HIGH LEVEL

TC7W02F(TOSHIBA)FLAT PACKAGE

C-MOS DUAL 2-INPUT NOR GATE
—TOP VIEW—



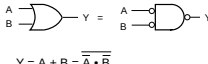
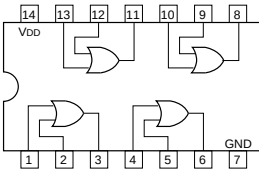
$Y = \overline{A + B} = \overline{A} \cdot \overline{B}$

A	B	Y
0	0	1
0	1	0
1	0	0
1	1	0

0; LOW LEVEL
1; HIGH LEVEL

TC74VHC32FS(EL)(TOSHIBA)FLAT PACKAGE(SMALL)

C-MOS QUAD 2-INPUT OR GATES
—TOP VIEW—



$Y = A + B = \overline{\overline{A} \cdot \overline{B}}$

A	B	Y
0	0	0
0	1	1
1	0	1
1	1	1

0; LOW LEVEL
1; HIGH LEVEL

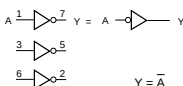
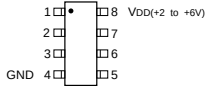
NOTE:

TYPE	V _{DD}
AC/VHC	+2 to +5.5V
HC	+2 to +6V

TC7W04FU(TOSHIBA)CHIP PACKAGE

C-MOS HEX INVERTERS

—TOP VIEW—

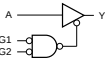
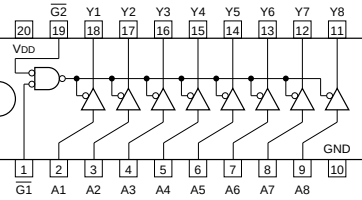


A	Y
0	1
1	0

0; LOW LEVEL
1; HIGH LEVEL

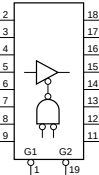
TC74VHC541FS(EL)(TOSHIBA)FLAT PACKAGE(SMALL)

C-MOS BUFFERS AND LINE DRIVERS WITH 3-STATE OUTPUTS
— TOP VIEW —



G1	G2	A	Y
0	0	0	0
0	0	1	1
1	X	X	Hi-Z
X	1	X	Hi-Z

0 ; LOW LEVEL
1 ; HIGH LEVEL
X ; DON'T CARE
Hi-Z ; HIGH IMPEDANCE



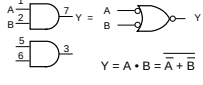
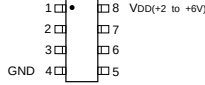
NOTE :

TYPE	V _{DD}
AC/VHC	+2 V to +5.5 V
HC	+2 V to +6 V
ABT/ACT/BCT/HCT/VHCT	+5 V

TC7W08FU(TOSHIBA)CHIP PACKAGE

C-MOS 2-INPUT AND GATE

—TOP VIEW—



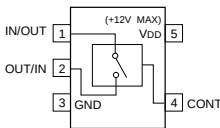
$Y = A \cdot B = \overline{\overline{A} + \overline{B}}$

A	B	Y
0	0	0
0	1	0
1	0	0
1	1	1

0; LOW LEVEL
1; HIGH LEVEL

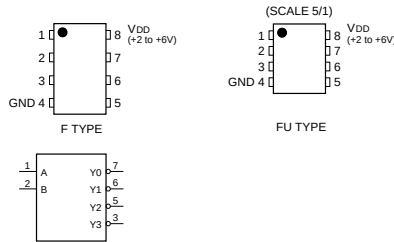
TC7S66FU(TOSHIBA)

C-MOS ANALOG SWITCH
—TOP VIEW—



TC7W139FU(TOSHIBA)CHIP PACKAGE

C-MOS 2 to 4 LINE DECODER WITH ENABLE
—TOP VIEW—

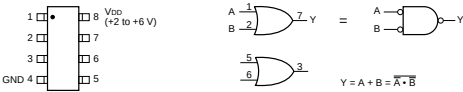


INPUTS		OUTPUTS				SELECTED OUTPUT
SELECT		Y0	Y1	Y2	Y3	
B	A					
0	0	0	1	1	1	Y0
0	1	1	0	1	1	Y1
1	0	1	1	0	1	Y2
1	1	1	1	1	0	Y3

0 ; LOW LEVEL
1 ; HIGH LEVEL

TC7W32FU(TOSHIBA)CHIP PACKAGE

C-MOS DUAL 2-INPUT OR GATE
—TOP VIEW—

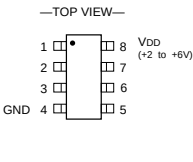


A	B	Y
0	0	0
0	1	1
1	0	1
1	1	1

0; LOW LEVEL
1; HIGH LEVEL

TC7W74FU(TOSHIBA)CHIP PACKAGE

C-MOS D-TYPE FLIP-FLOPS WITH DIRECT SET / RESET
—TOP VIEW—

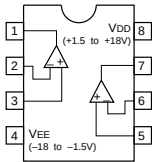


INPUTS				OUTPUTS	
Sd	Rd	Ck	D	Qn+1	Qn+1
0	1	X	X	1	0
1	0	X	X	0	1
0	0	X	X	1	1
1	1	↓	1	1	0
1	1	↓	0	0	1
1	1	↓	X	Qn	Qn

0 ; LOW LEVEL
1 ; HIGH LEVEL
X ; DON'T CARE

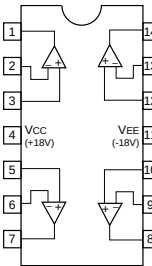
TL062CPW(TI)FLAT PACKAGE
TL082M(TI)

OPERATIONAL AMPLIFIER
(J FET INPUT)
—TOP VIEW—



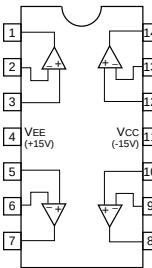
TL064CPW(TI)

OPERATIONAL AMPLIFIER
(J FET INPUT)
—TOP VIEW—



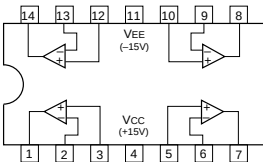
TL074CPW(TI)

OPERATIONAL AMPLIFIER
(LOW-NOISE, JFET-INPUT)
—TOP VIEW—



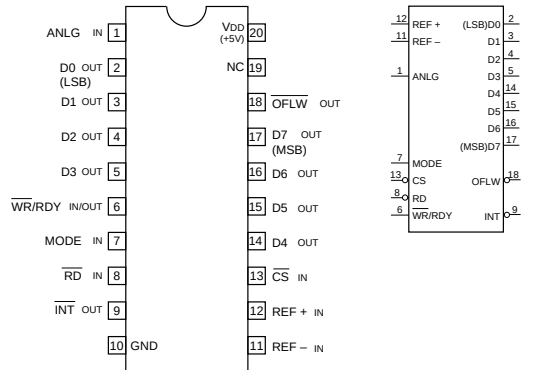
TL084CPW(TI)

OPERATIONAL AMPLIFIER
(J FET INPUT)
—TOP VIEW—



TLC0820ACDW(TI)FLAT PACKAGE

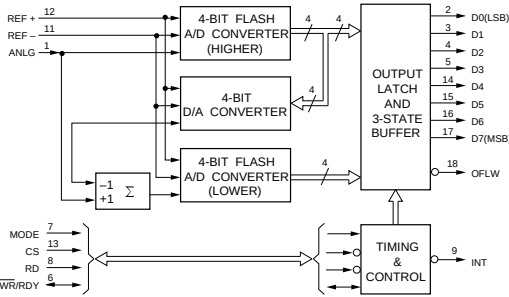
C-MOS 8-BIT SEMIFLASH TYPE A/D CONVERTER
—TOP VIEW—



INPUT
ANLG : ANALOG SIGNAL
CS : CHIP SELECT
MODE : MODE
RD : READ
REF+, REF- : REFERENCE VOLTAGE +, -

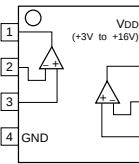
OUTPUT
D0-D7 : DIGITAL SIGNAL
INT : INTERRUPT
OFLW : OVERFLOW

INPUT/OUTPUT
WR/RDY : L : WRITE/H : READY



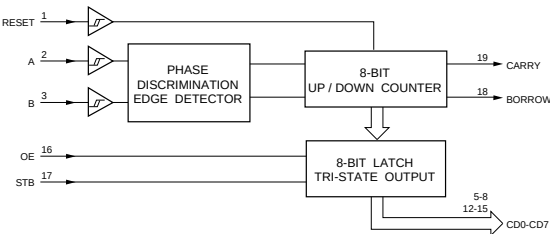
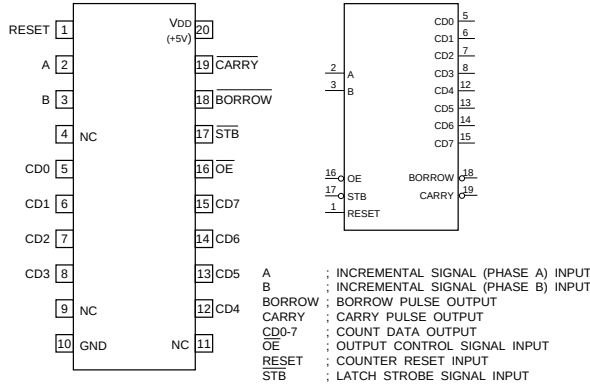
TLC272CP
TLC272CPW(TI)
TLC272L2CPS(TI)FLAT PACKAGE

OPERATIONAL AMPLIFIER
—TOP VIEW—

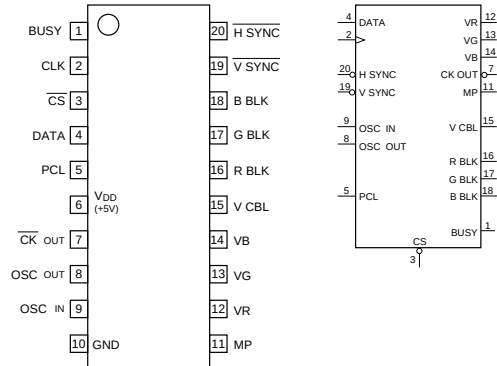


UPD4702G(NEC)

C-MOS INCREMENTAL ENCODER 8-BIT UP DOWN COUNTER
—TOP VIEW—



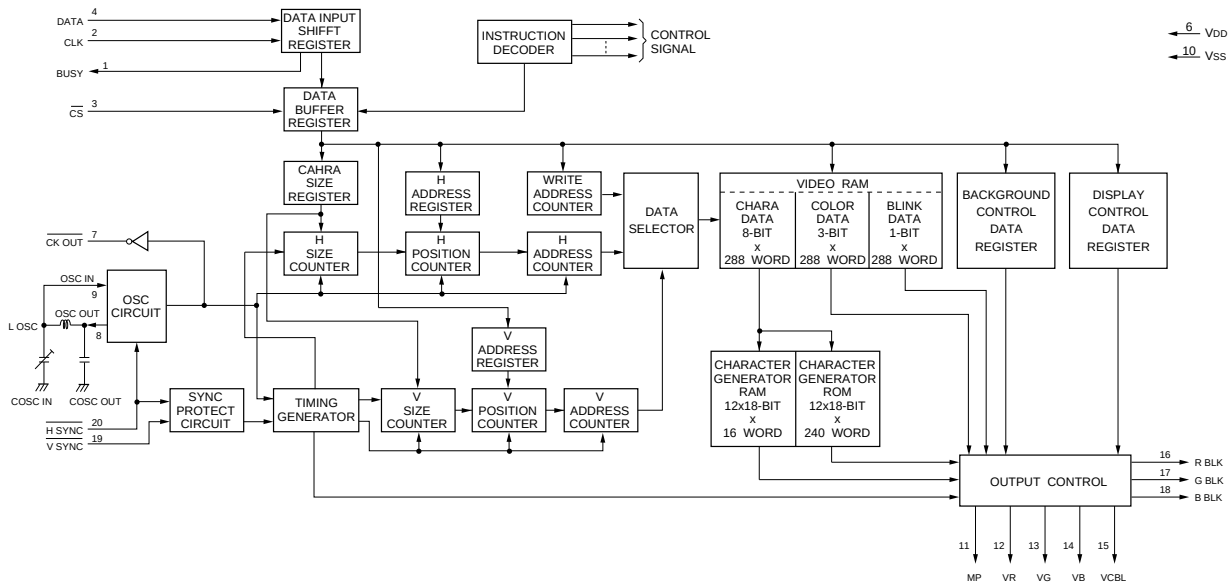
UPD6453GT-610(NEC)FLAT PACKAGE

C-MOS ON-SCREEN CHARACTER DISPLAY
—TOP VIEW—**INPUT**

CLK : CLOCK
CS : CHIP SELECT
DATA : SERIAL DATA
H SYNC : HORIZONTAL SYNC
OSC IN : OSCILLATOR IN
PCL : POWER ON CLEAR
V SYNC : VERTICAL SYNC

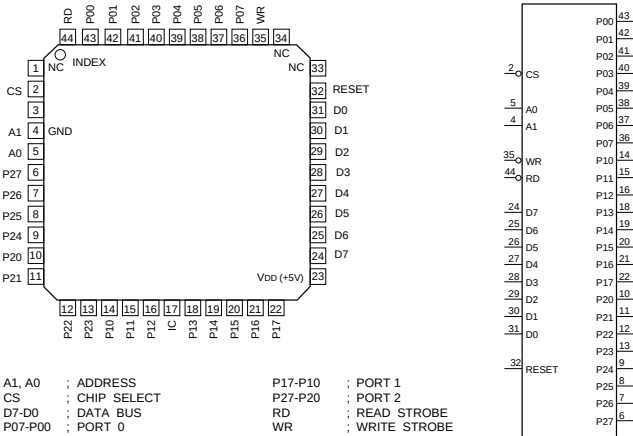
OUTPUT

B BLK, R BLK, G BLK : B, R, G, BLANKING
BUSY : BUSY OUT
CK OUT : CLOCK
MP : MASK PULSE
OSC OUT : OSCILLATOR OUT
VR, VG, VB : R, G, B, CHARACTER DATA
V CBL : VIDEO CUT BLANKING



UPD71055GB-10-3B4(NEC)FLAT PACKAGE

C-MOS PARALLEL INTERFACE UNIT
—TOP VIEW—



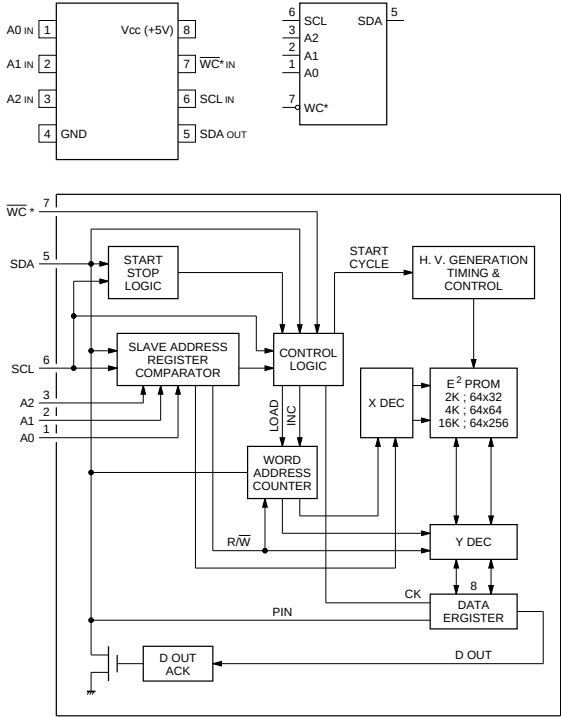
IC ; INTERNALLY CONNECTED

CS	RD	WR	A1	A0	OPERATION	CPU ACTION
0	0	1	0	0	PORT0 → DATA • BUS	INPUT
0	0	1	0	1	PORT1 → DATA • BUS	INPUT
0	0	1	1	0	PORT2 → DATA • BUS	INPUT
0	0	1	1	1		
0	0	0	X	X	DISABLE	
0	1	0	0	0	DATA • BUS → PORT0	OUTPUT
0	1	0	0	1	DATA • BUS → PORT1	OUTPUT
0	1	0	1	0	DATA • BUS → PORT2	OUTPUT
0	1	0	1	1	DATA • BUS → COMMAND REGISTER	OUTPUT
0	1	1	X	X		
1	X	X	X	X	HIGH IMPEDANCE	

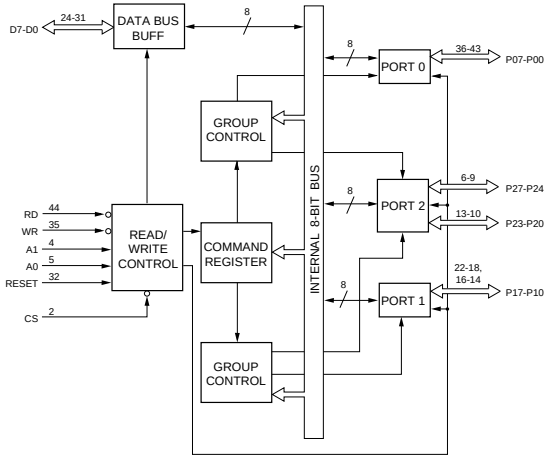
0 ; LOW LEVEL
1 ; HIGH LEVEL
X ; DON'T CARE

X24164SI(XICOR)(16K BIT)FLAT PACKAGE
X24C02S-3.0(XICOR)(2K BIT)FLAT PACKAGE

C-MOS SERIAL EEPROM
- TOP VIEW -



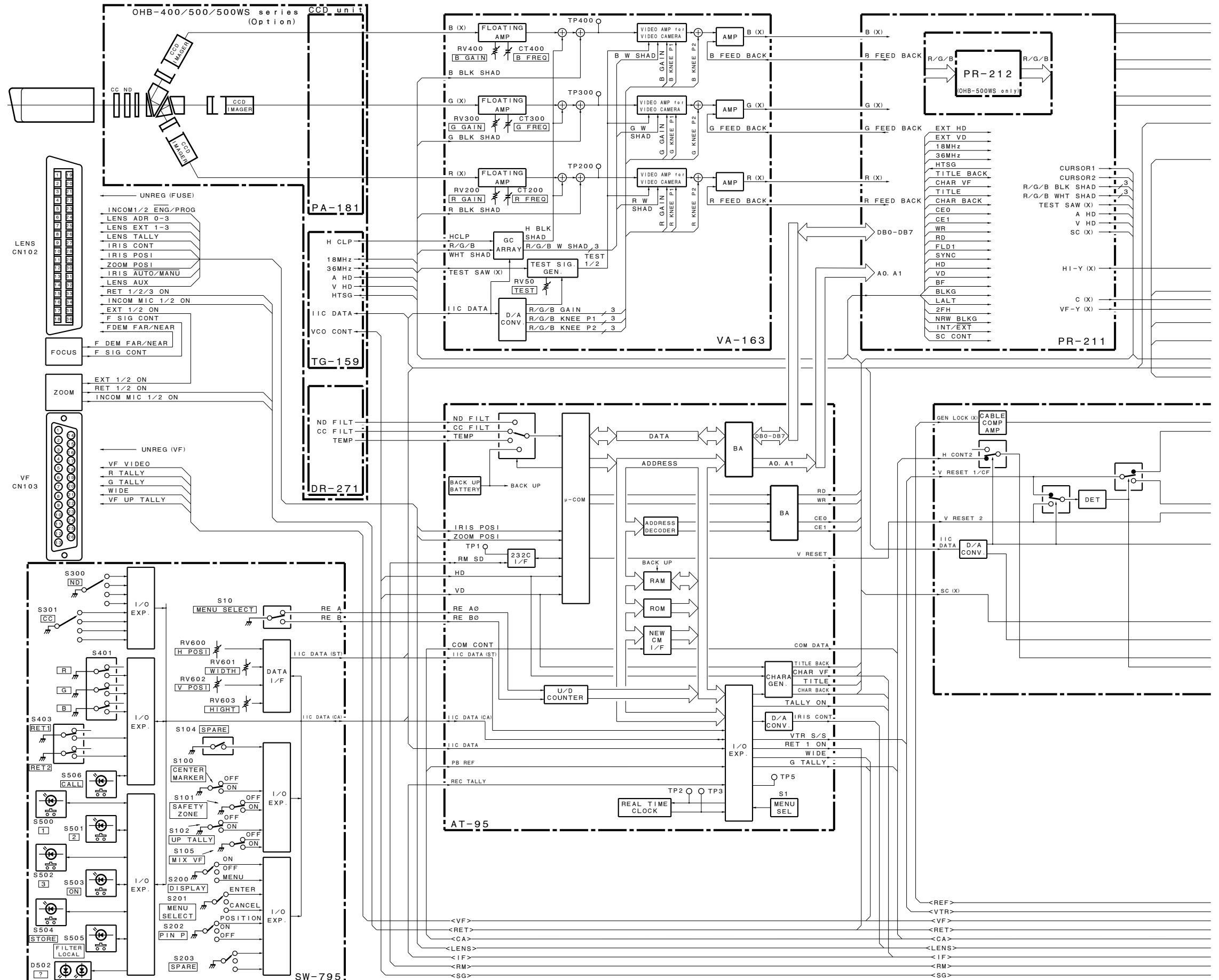
NOTE : * TEST (at X24164SIC7000)

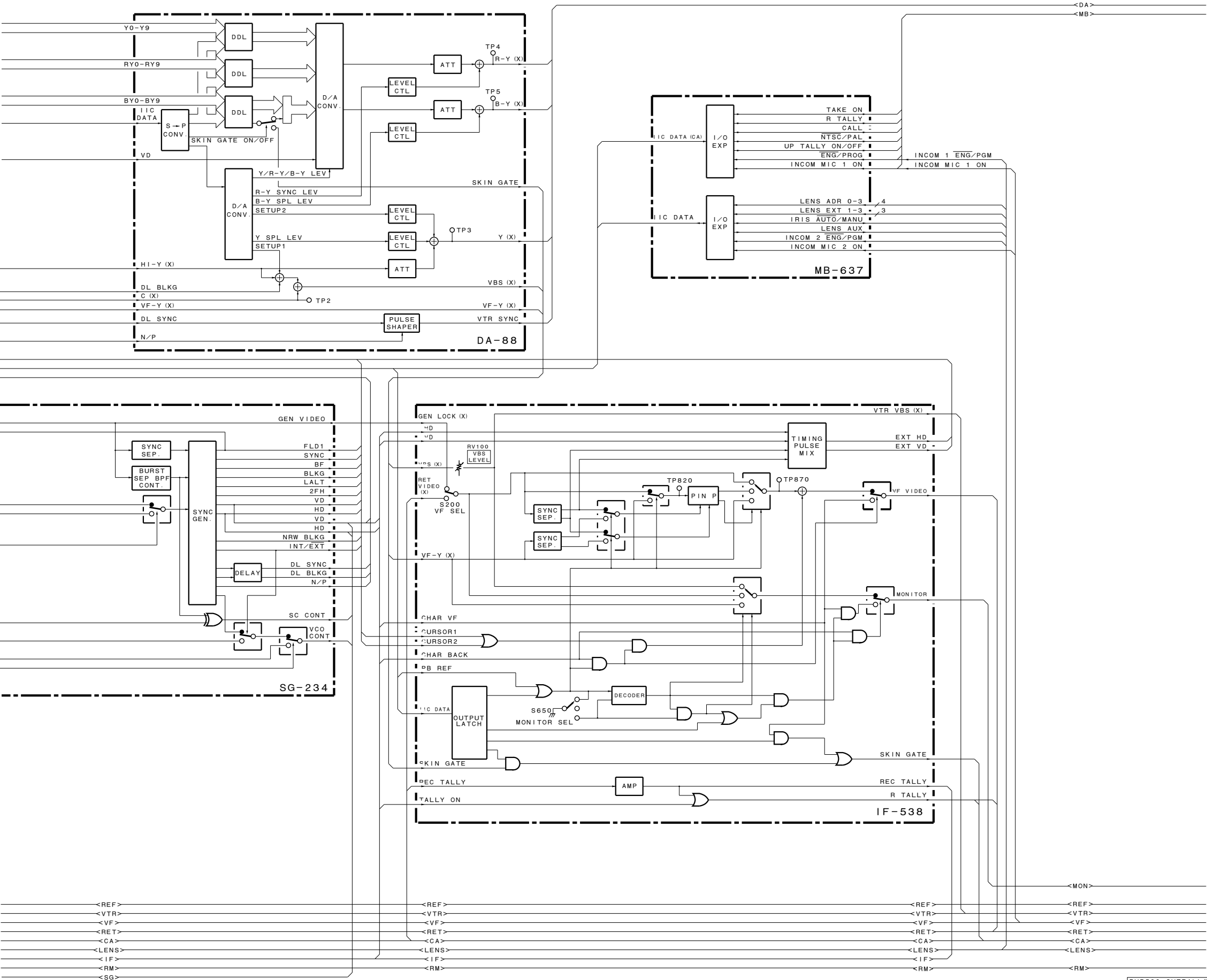


Section 3

Block Diagrams

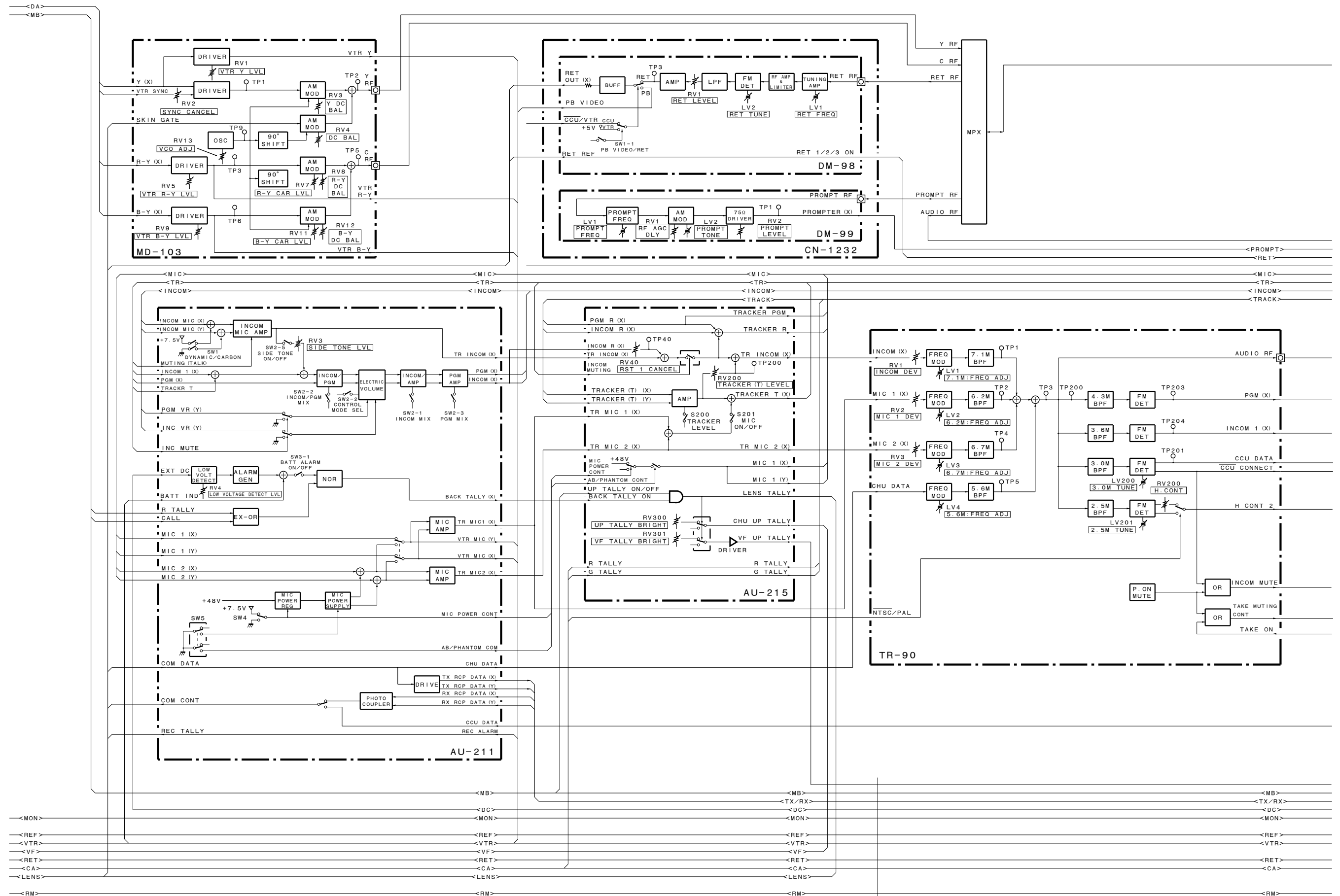
OVERALL BLOCK

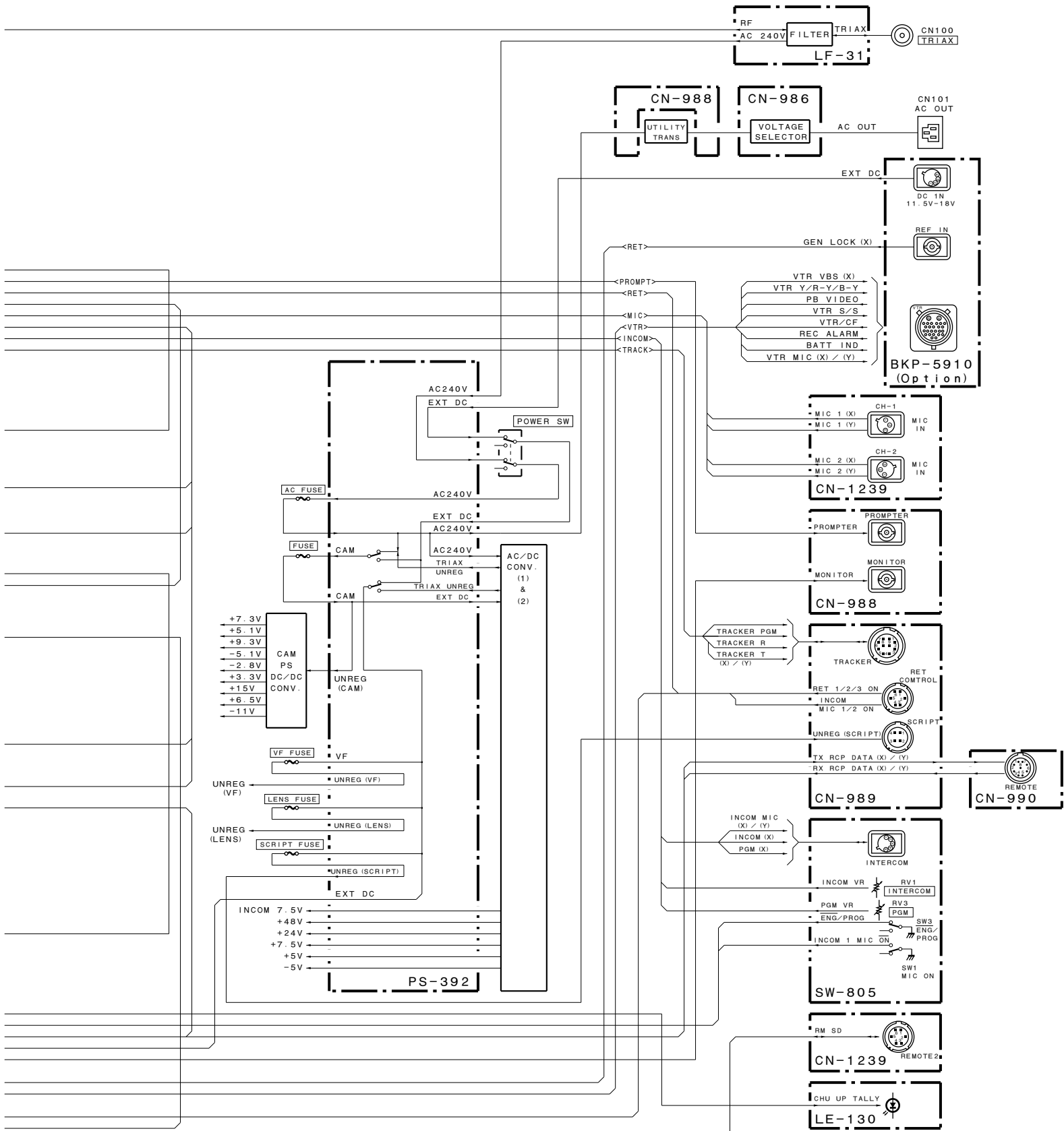




OVERALL BLOCK (1/2)
BVP-500
BVP-500P

BVP500-OVERALL#2/M





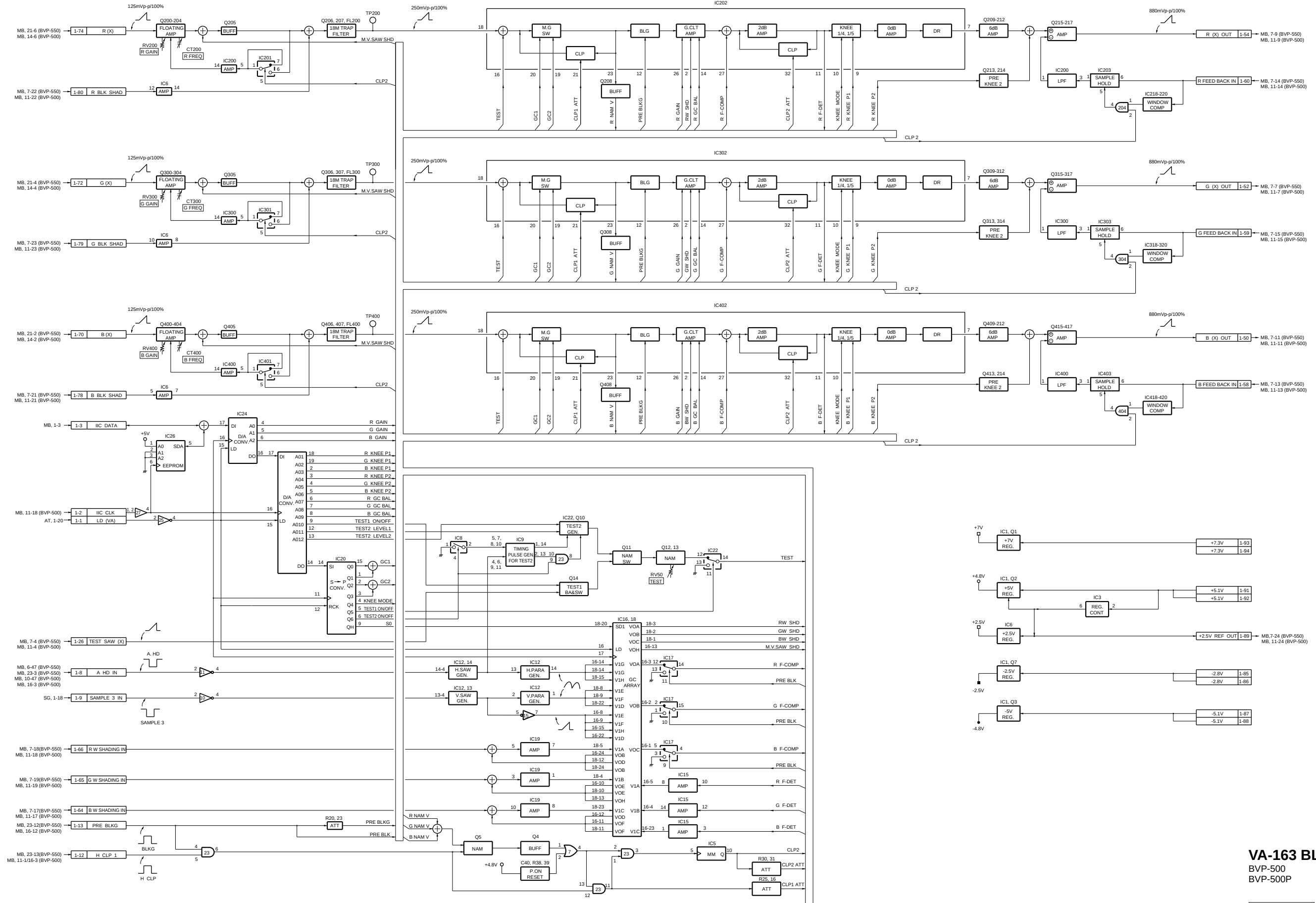
OVERALL BLOCK (2/2)

BVP-500
BVP-500P

BVP500-OVERALL#4/M

VA-163 BOARD

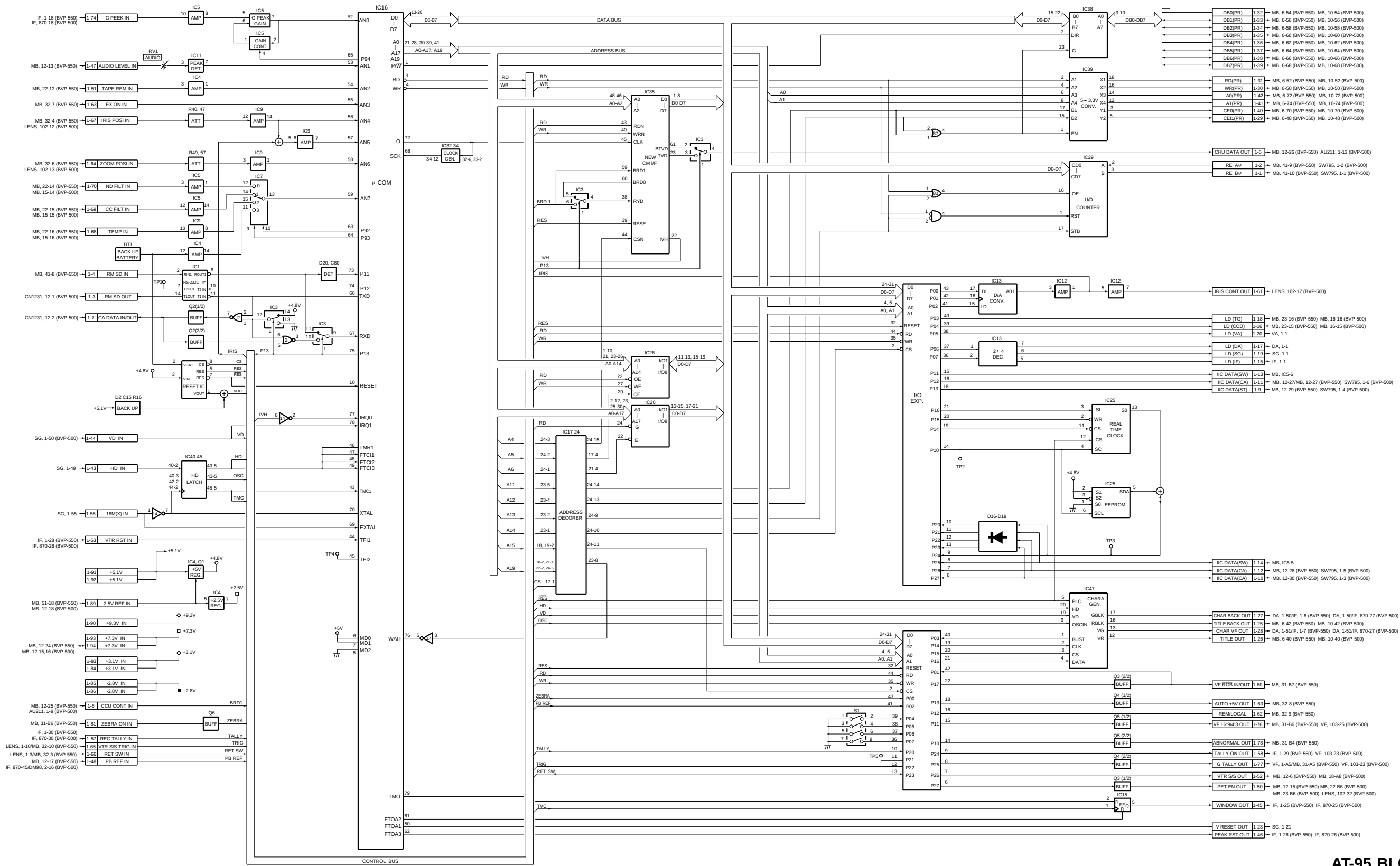
VA-163 VA-163



VA-163 BLOCK
BVP-500
BVP-500P

BVP550-VA163BLOCK#1/M

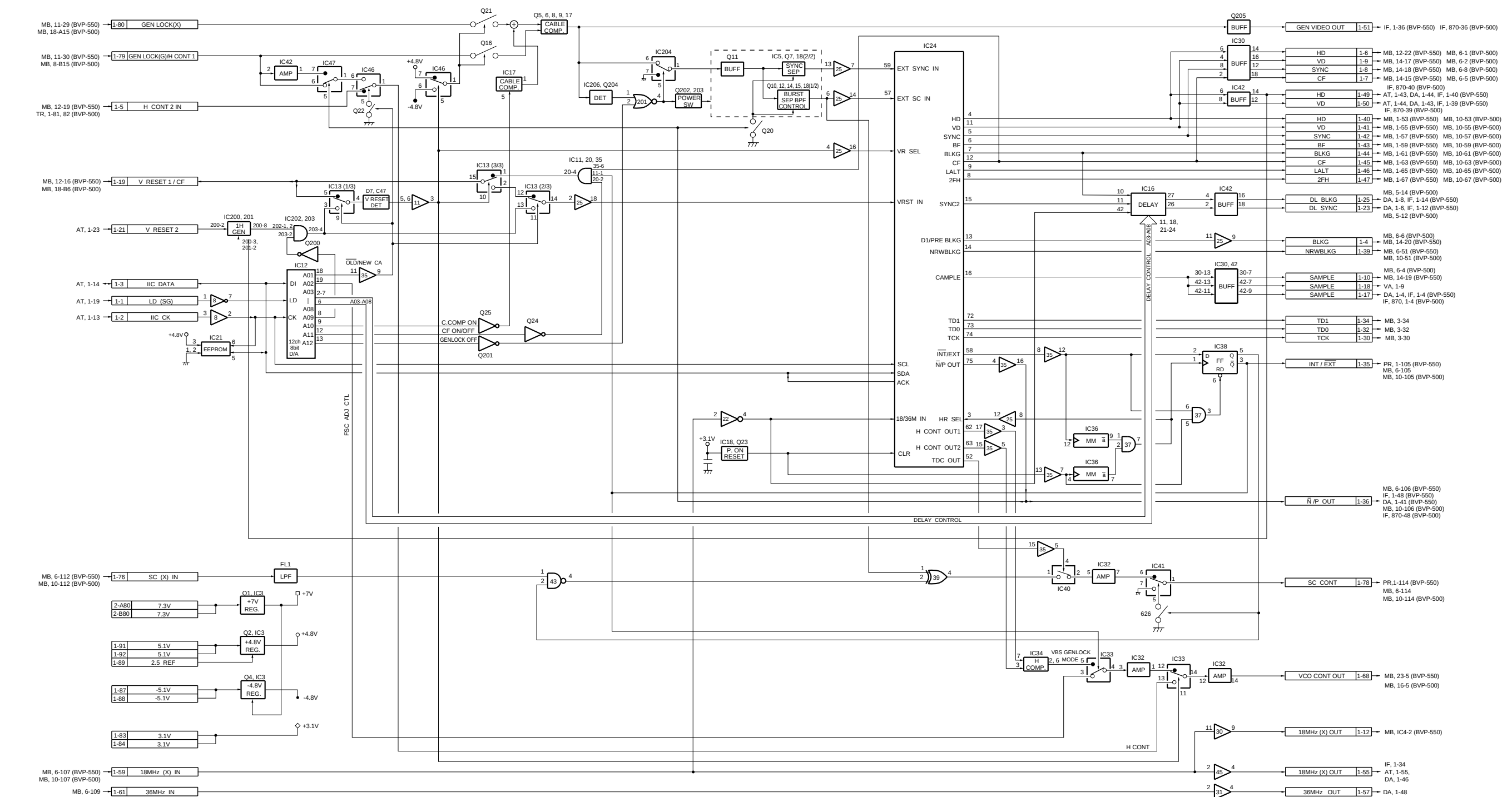
AT-95 BOARD



AT-95 BLOCK

BVP550-AT95BLOCK#1/M

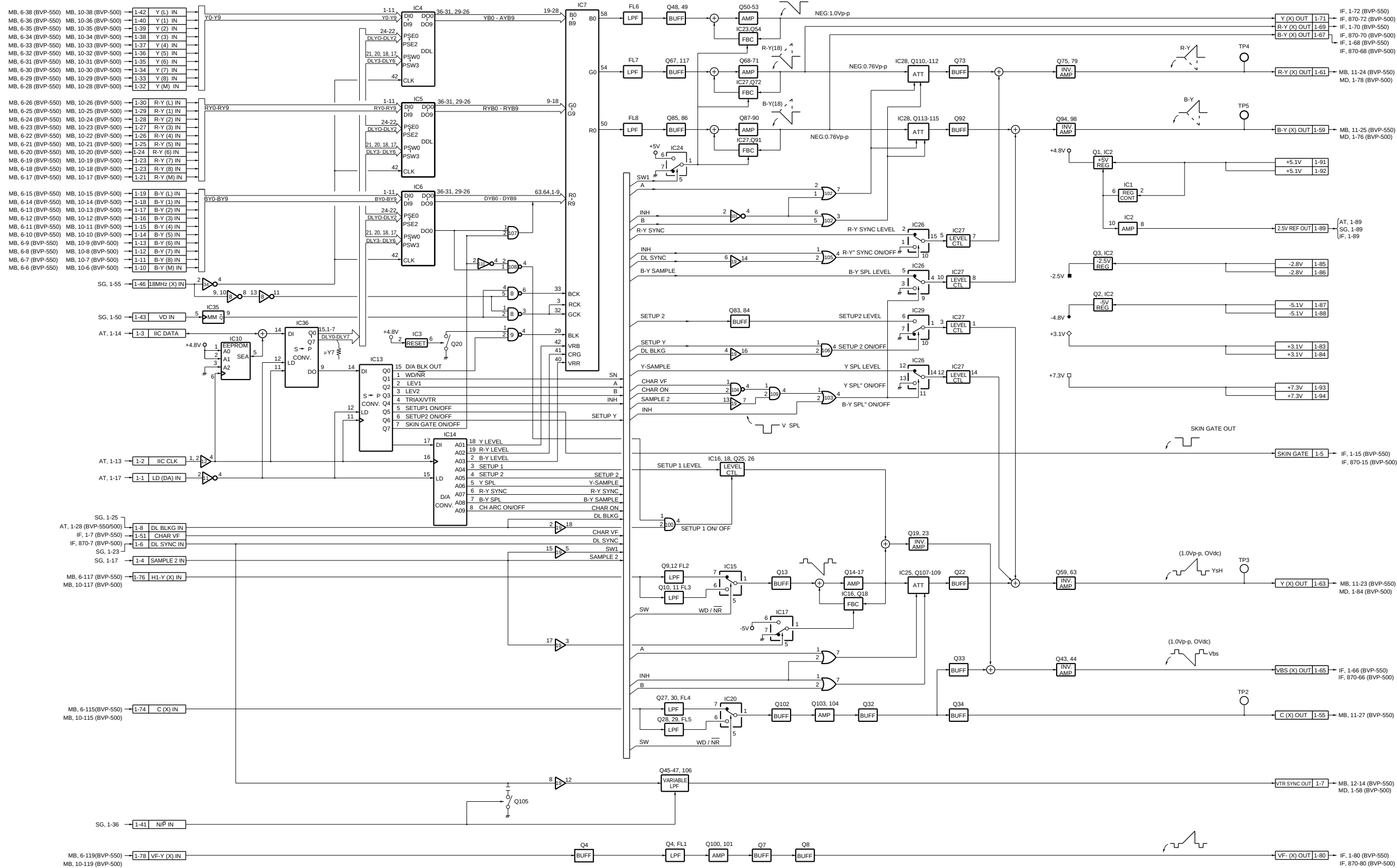
SG-234 BOARD



SG-234 BLOCK
BVP-500
BVP-500P

BVP550-SG234BLOCK#1M

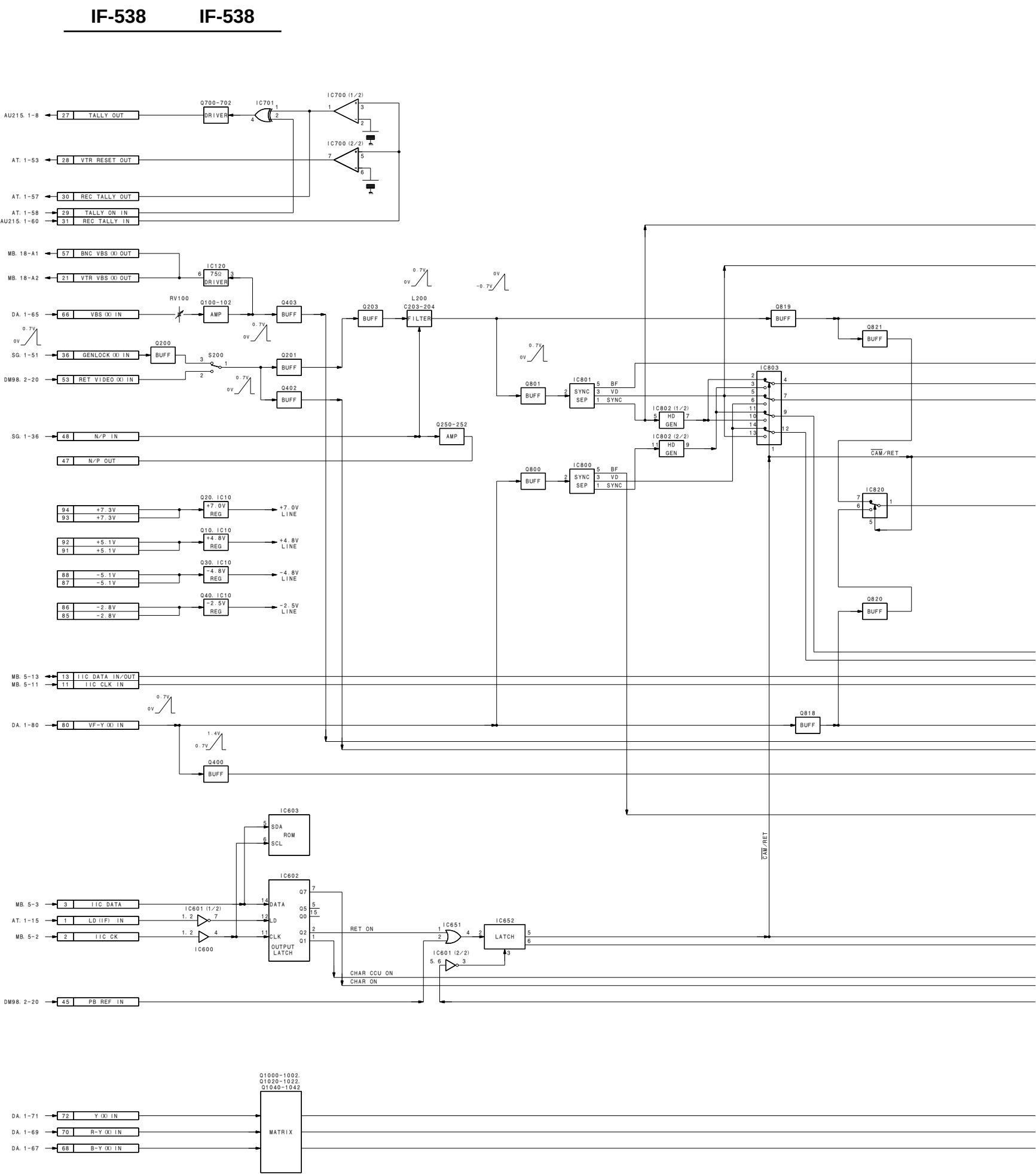
DA-88 BOARD

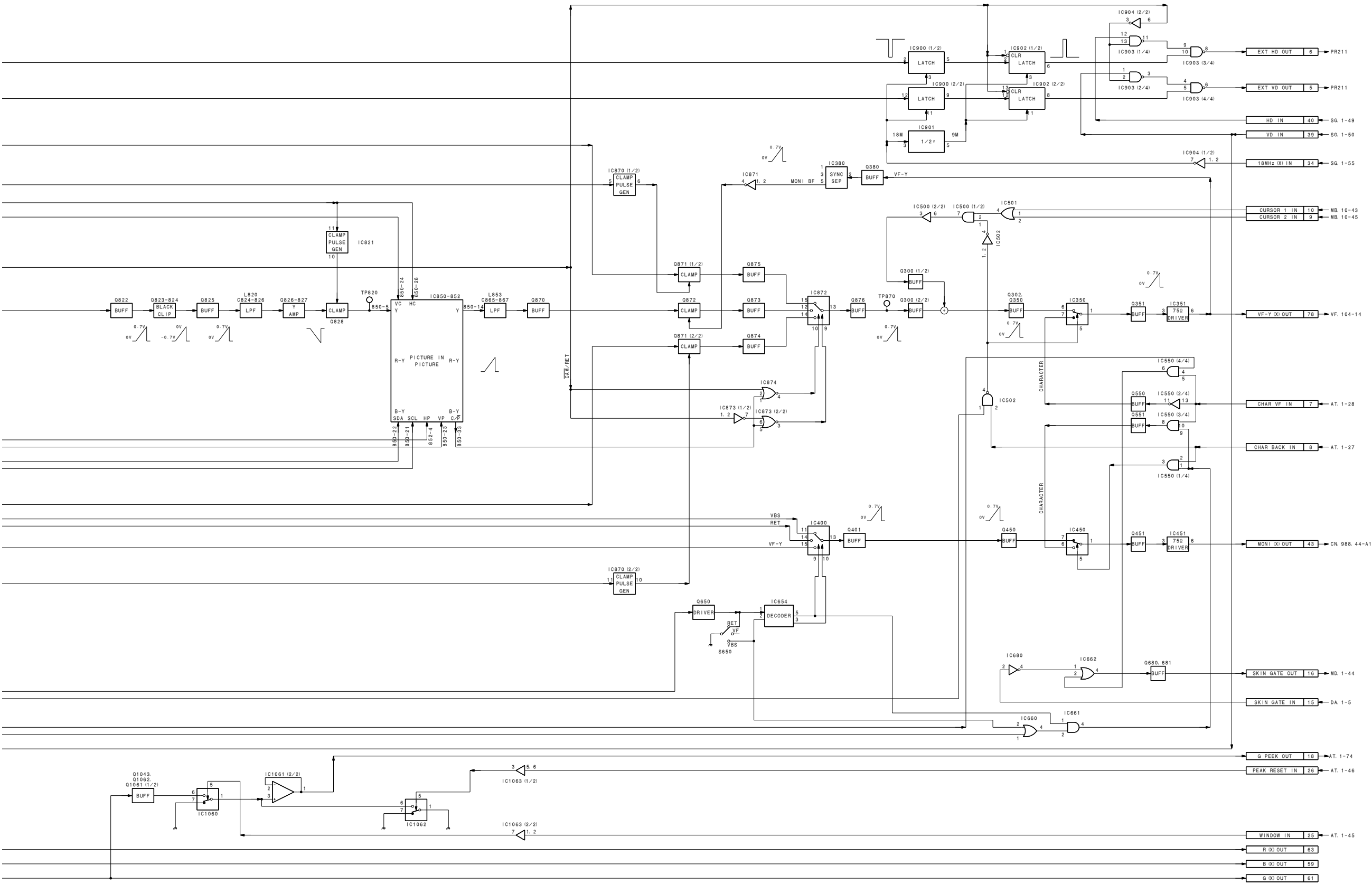


DA-88 BLOCK
BVP-500
BVP-500P

BVP550-DA88BLOCK#1JM

IF-538 BOARD

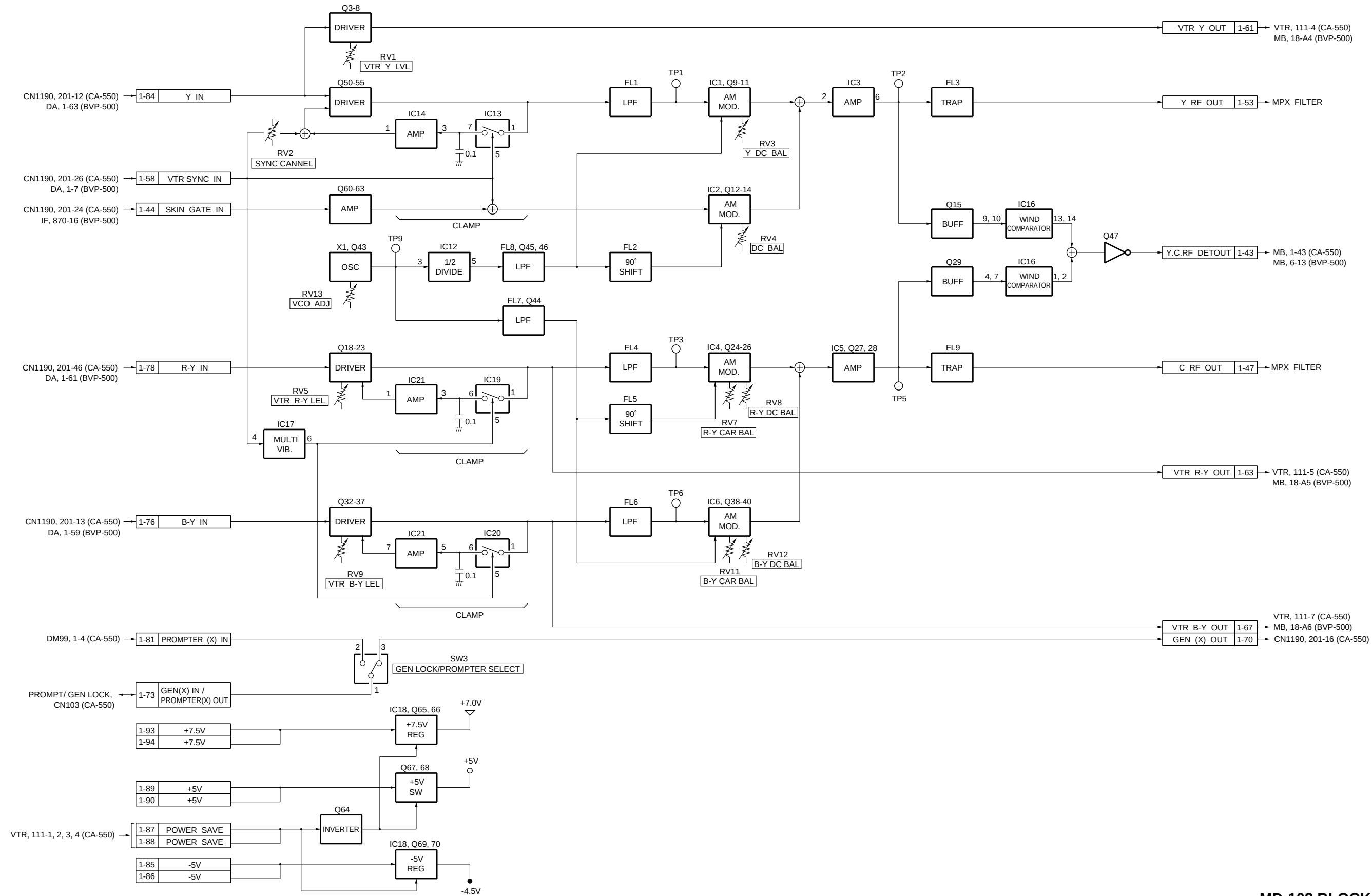




IF-538 BLOCK
BVP-500
BVP-500P

B-BVP500P-IF538BLOCK#1/M1

MD-103 BOARD



MD-103 BLOCK
BVP-500
BVP-500P

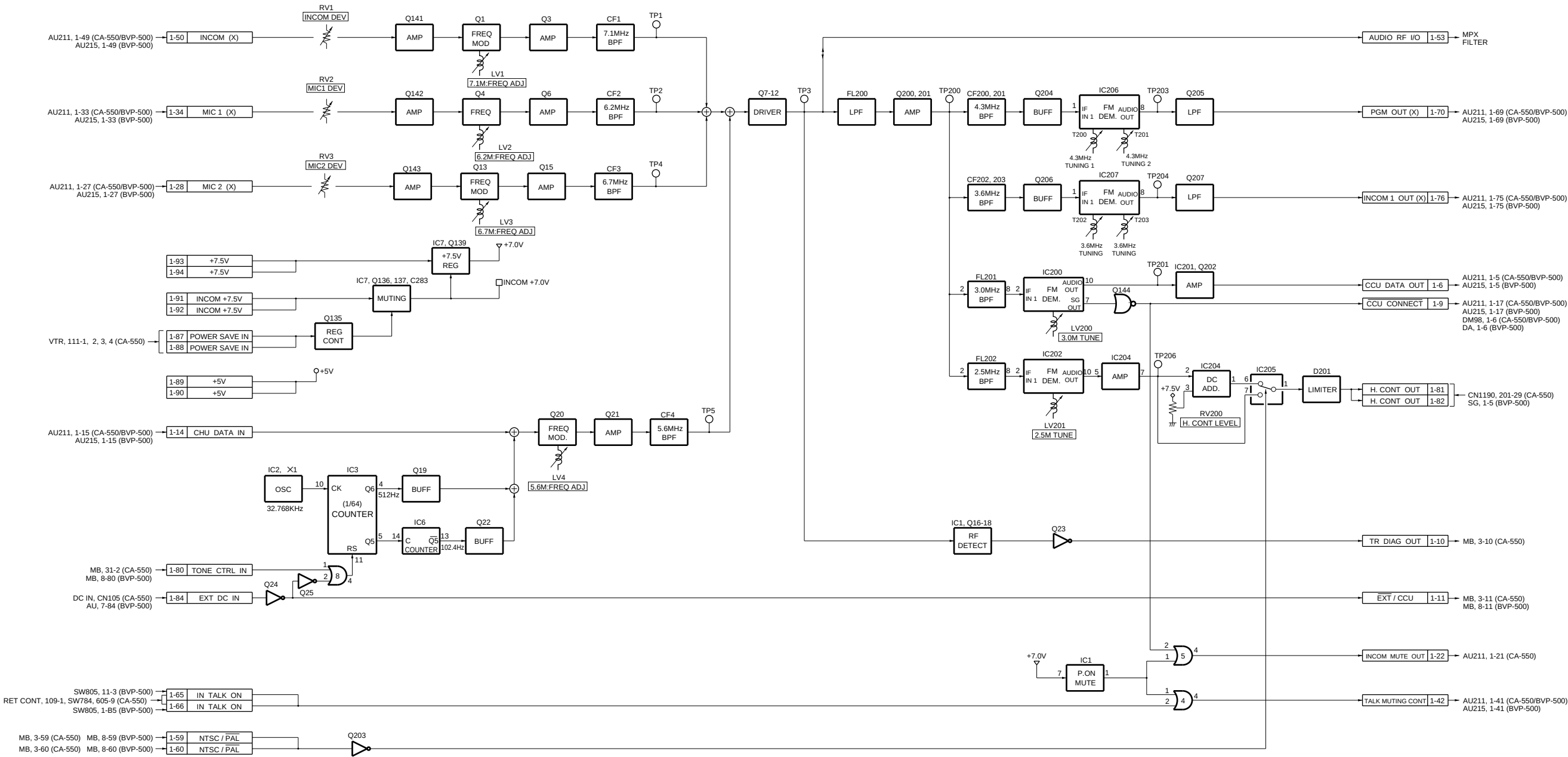
CA550-MD103BLOCK#1/M

AU-211 BOARD



CA550-AU211BLOCK#1/M

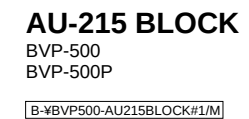
TR-90 BOARD



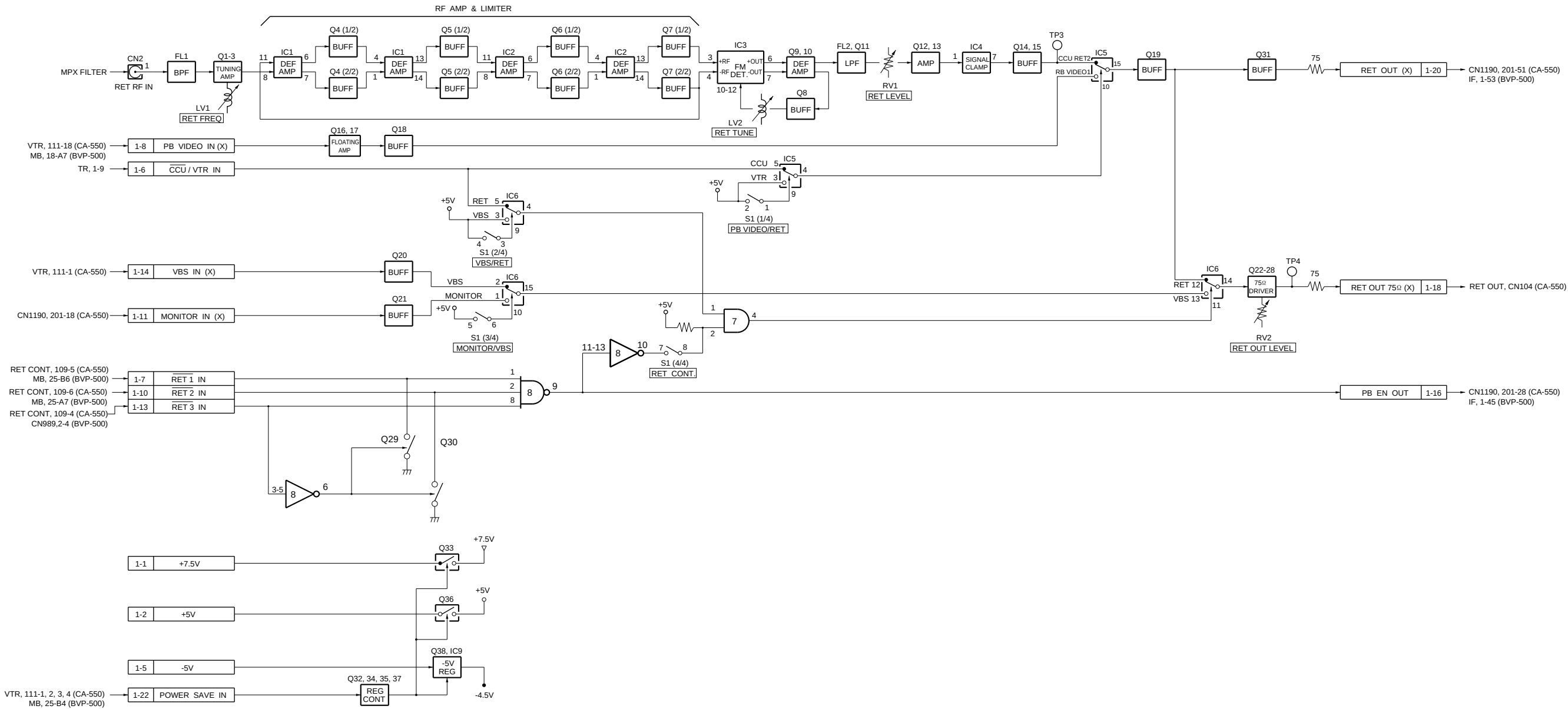
TR-90 BLOCK
BVP-500
BVP-500P

CA550-TR90BLOCKJ1M

AU-215 BOARD



DM-98 BOARD

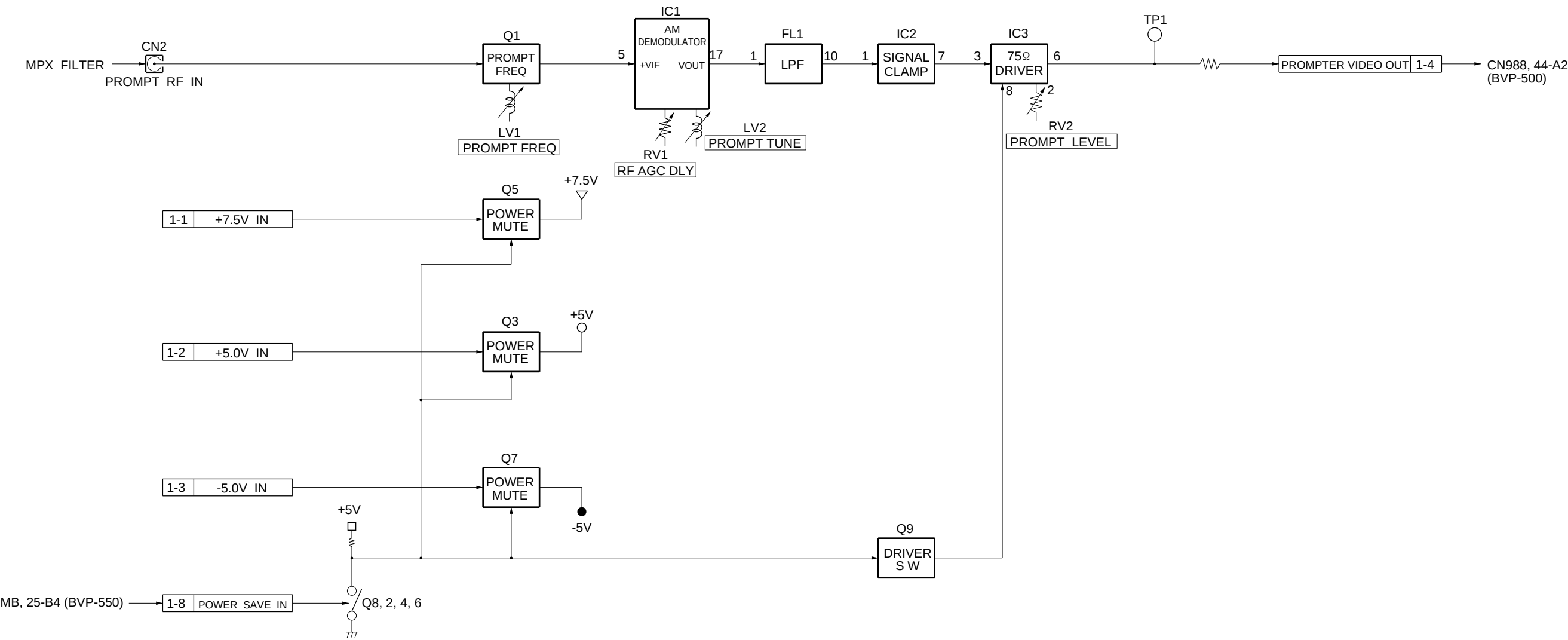


DM-98 BLOCK

BVP-500
BVP-500P

CA550-DM98BLOCK#1/M

DM-99 BOARD

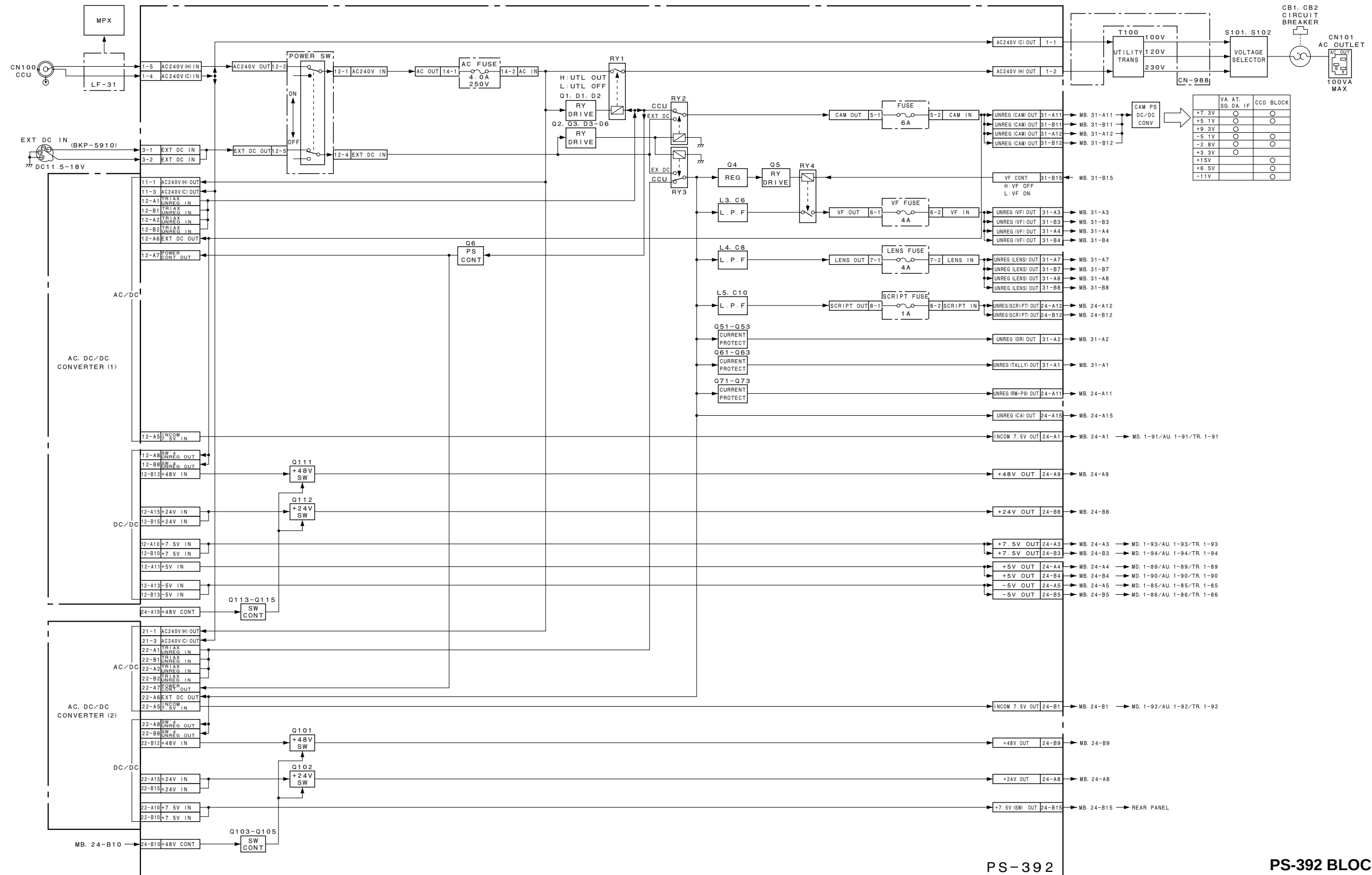


DM-99 BLOCK

BVP-500
BVP-500P

BVP500-DM99BLOCK#1/M

PS-392 BOARD



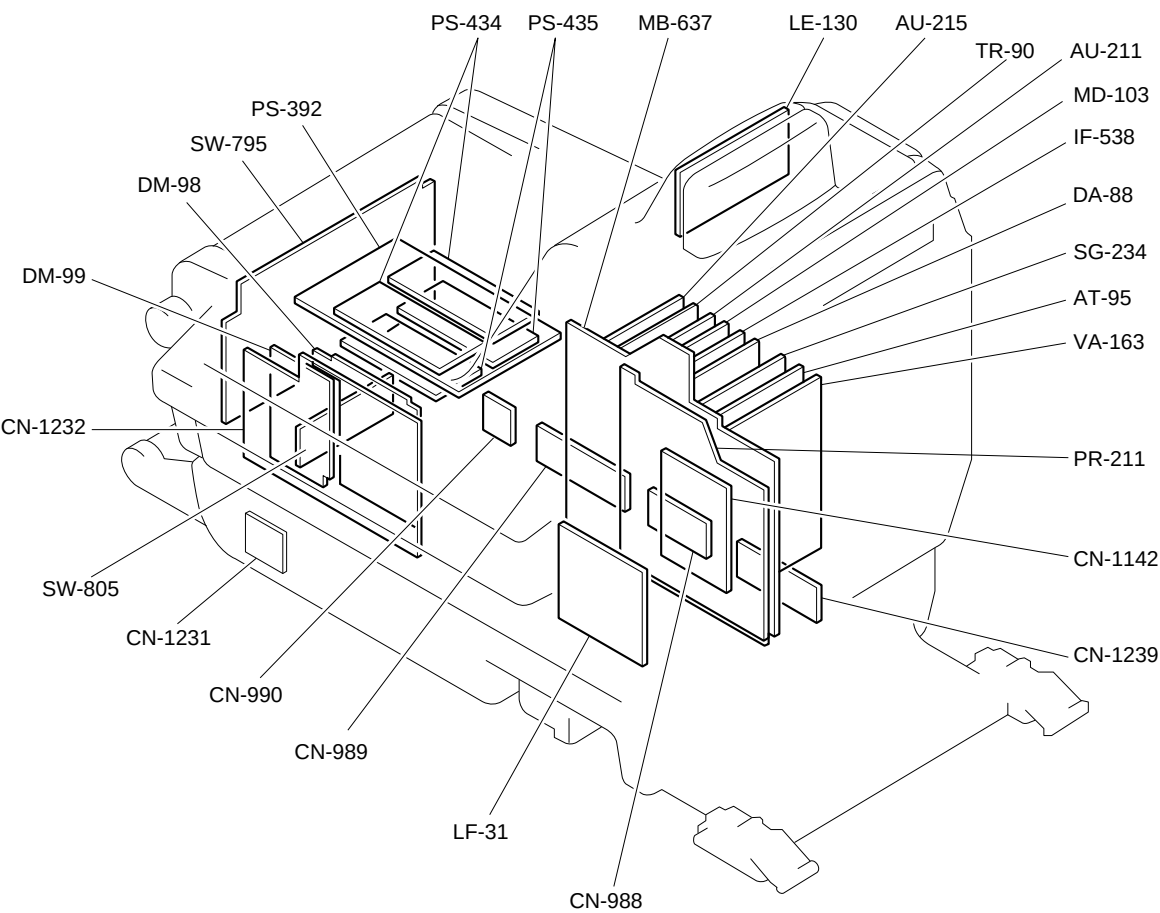
PS-392 BLOCK

BVP-500
BVP-500P

BVP500 SW-REG BLOCK#1/M

Section 4
Schematic Diagrams

LOCATION OF PRINTED CIRCUIT BOARDS



1

2

3

4

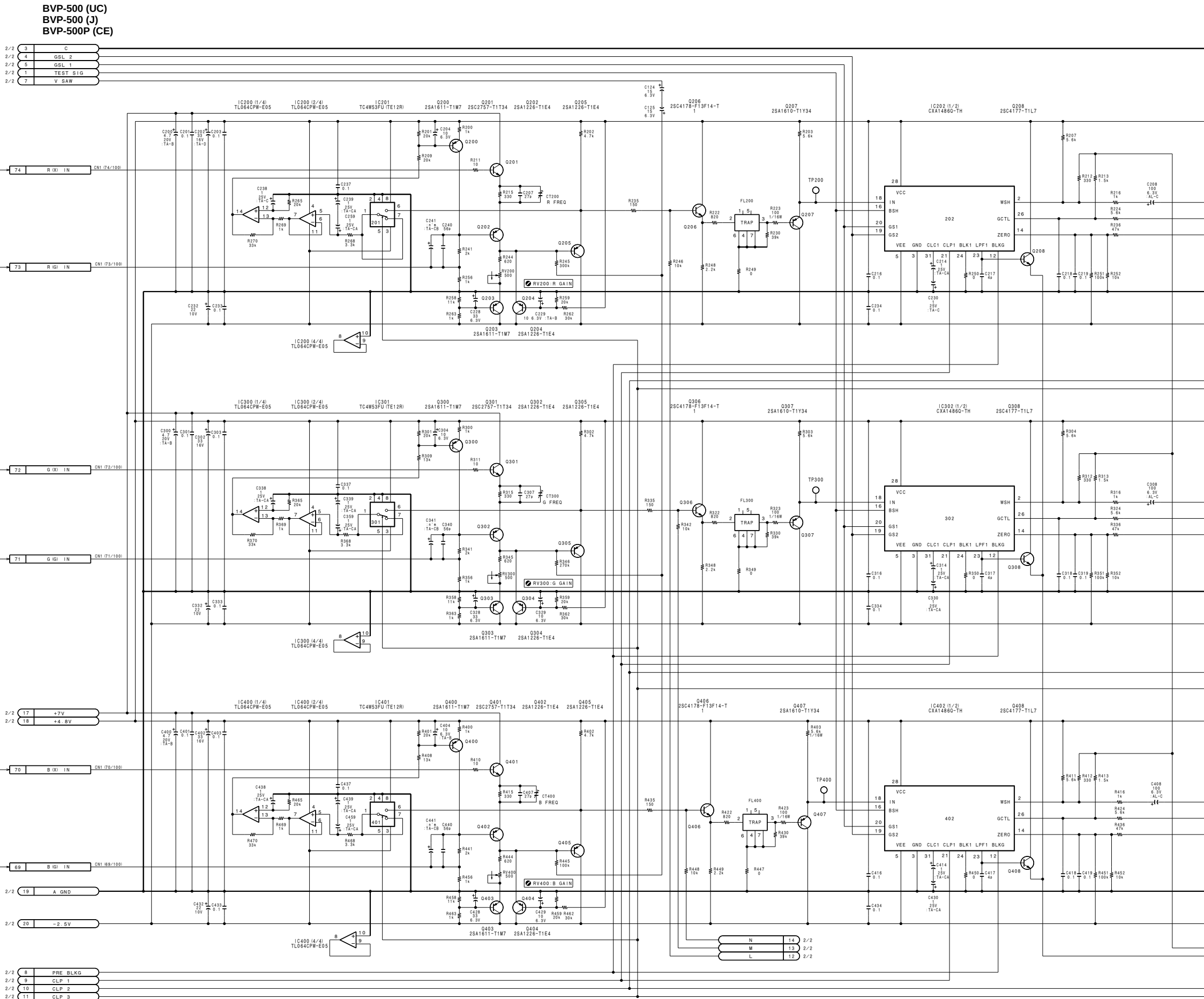
5

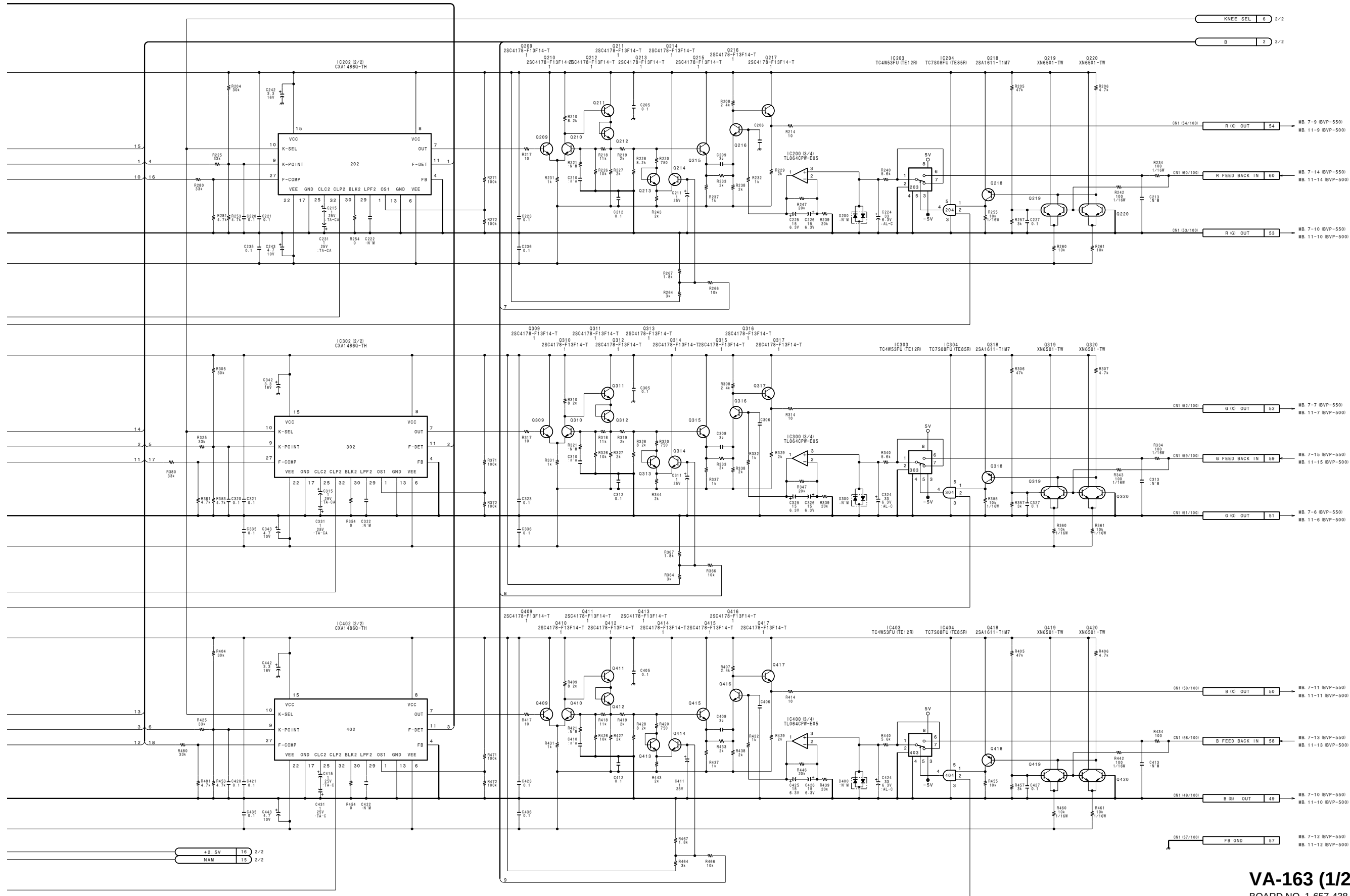
VA-163 BOARD

VA-163 (1-657-438-21)

*: B SIDE

CN1	C-1	* Q213	C-1
		* Q214	C-1
CT200	B-4	* Q215	C-2
CT300	D-4	Q216	C-2
CT400	F-4	Q217	C-1
		* Q218	B-1
* D1	A-3	Q219	C-1
* D2	A-2	Q220	C-1
* D3	A-2	* Q300	C-4
* D4	A-3	* Q301	C-4
* D5	B-3	* Q302	D-4
D7	B-3	* Q303	D-4
* D8	F-3	* Q304	D-4
* D9	F-3	* Q305	D-3
* D10	F-3	Q306	D-3
		* Q307	D-3
		* Q308	D-3
FL200	C-3	Q309	D-2
FL300	D-3	Q310	D-2
FL400	E-3	Q311	D-2
		Q312	D-2
IC1	A-3	* Q313	D-1
IC3	B-2	* Q314	D-1
IC5	B-3	* Q315	D-2
IC6	B-2	Q316	D-2
* IC7	B-3	Q317	D-1
* IC8	F-4	* Q318	C-1
IC9	F-4	Q319	D-1
IC10	F-2	Q320	D-1
IC11	F-2	* Q400	D-4
IC12	F-2	* Q401	E-4
IC13	F-2	* Q402	E-4
IC14	F-2	* Q403	F-4
IC15	F-3	* Q404	E-4
IC16	G-3	* Q405	E-3
* IC17	G-3	Q406	E-3
IC18	G-2	* Q407	E-3
* IC19	G-3	* Q408	E-3
IC20	G-2	Q409	E-2
IC21	G-1	Q410	E-2
IC22	B-4	Q411	E-2
IC23	B-3	Q412	E-2
IC24	G-1	* Q413	E-1
IC25	F-1	* Q414	E-1
IC26	F-1	* Q415	E-2
IC27	F-1	Q416	E-2
IC200	C-4	Q417	E-1
* IC201	C-3	* Q418	E-1
IC202	C-2	Q419	E-1
* IC203	B-2	Q420	E-1
* IC204	B-1		
IC300	D-4	RV50	B-4
* IC301	D-3	RV200	C-4
IC302	D-2	RV300	D-4
* IC303	C-2	RV400	F-4
* IC304	C-1		
IC400	E-4		
* IC401	E-3	TP200	D-4
IC402	E-2	TP300	E-4
* IC403	D-2	TP400	F-4
* IC404	E-1		
L1	A-2		
L2	A-3		
* Q1	A-2		
* Q2	A-2		
* Q3	A-3		
Q4	B-3		
Q5	A-3		
* Q7	A-3		
Q10	A-4		
Q11	A-4		
Q12	A-4		
Q13	A-4		
Q14	A-4		
* Q200	B-4		
* Q201	B-4		
* Q202	C-4		
* Q203	C-4		
* Q204	C-4		
* Q205	C-3		
Q206	B-3		
* Q207	C-3		
* Q208	C-3		
Q209	B-2		
Q210	C-2		
Q211	B-2		
Q212	C-2		





VA-163 (1/2)
BOARD NO. 1-657-438-21
LOT NO. 509-
B-BVP550-VA163-12M

1

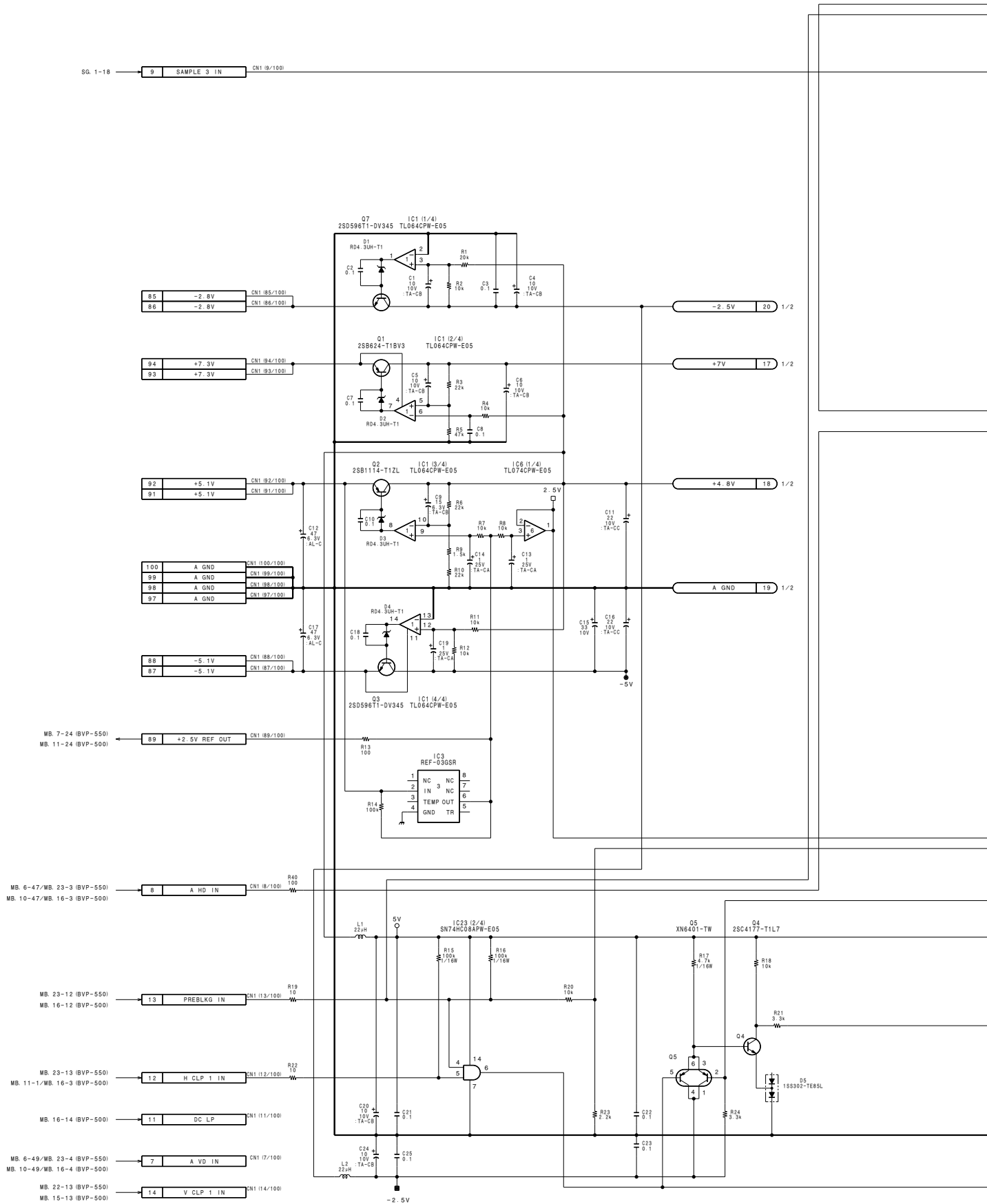
BVP-500 (UC)
BVP-500 (J)
BVP-500P (CE)

2

3

4

5





P

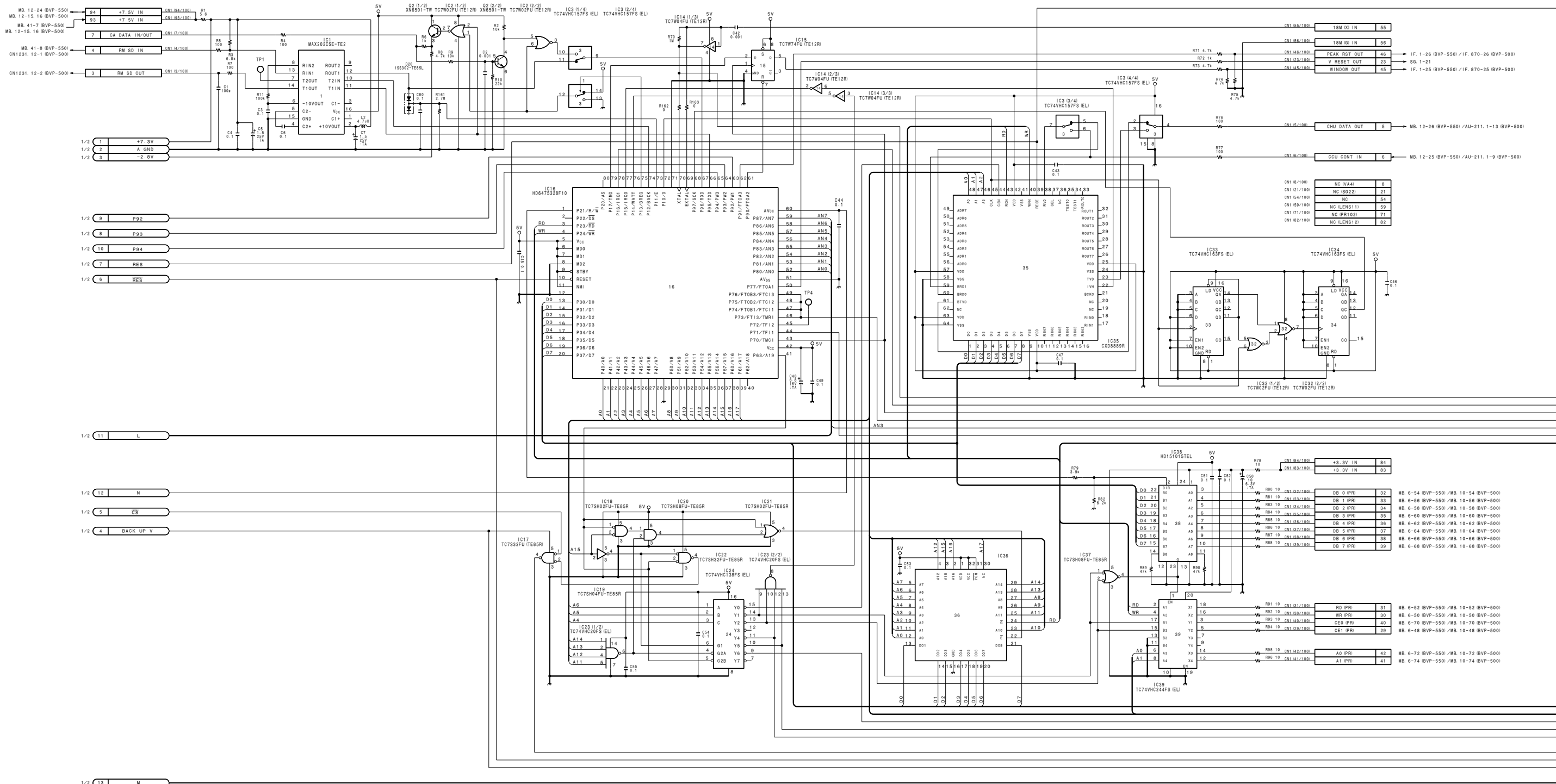
AT-95 BOARD

AT-95 (1-657-448-21)	
*: B SIDE	
BT1	B-4
CNI36	F-2
CN1	C-1
D1	A-2
D2	B-4
* D3	A-2
* D4	A-2
* D5	A-3
* D6	B-3
* D7	B-3
* D8	A-3
* D10	A-3
* D11	A-3
* D12	A-4
* D13	B-4
* D15	B-3
* D16	G-4
* D17	G-4
* D18	G-4
* D19	G-4
* D20	G-1
* D21	C-2
* D22	G-3
IC1	F-1
* IC2	G-2
* IC3	G-1
* IC4	A-2
* IC5	B-2
* IC6	B-4
* IC7	B-2
* IC8	A-2
* IC9	B-3
* IC11	B-4
* IC12	C-2
* IC13	B-2
* IC14	C-3
* IC15	D-4
IC16	D-2
* IC17	D-4
* IC18	D-4
* IC19	D-4
* IC20	D-4
* IC21	D-4
* IC22	D-4
* IC23	E-3
* IC24	E-3
IC25	D-4
* IC26	E-2
IC27	E-4
IC28	F-4
* IC29	G-3
* IC30	G-2
* IC31	F-2
* IC32	B-2
IC33	B-2
IC34	C-2
IC35	C-4
* IC37	E-4
IC38	C-3
* IC39	E-4
* IC40	D-2
* IC41	C-3
* IC42	D-3
* IC43	D-3
* IC44	D-3
* IC45	D-2
* IC46	G-4
IC47	E-2
* IC48	G-2
L1	B-1
L2	F-1
Q1	A-2
* Q2	F-2
* Q3	B-1
* Q4	C-1
* Q5	B-1
* Q6	B-1
RV1	C-3
S1	E-3

AT-95 (1/2)
BOARD NO. 1-657-448-21
LOT NO. 509-
B-¥BVP550-AT95-12M

BVP-500 (UC)
BVP-500 (J)
BVP-500P (CE)

1

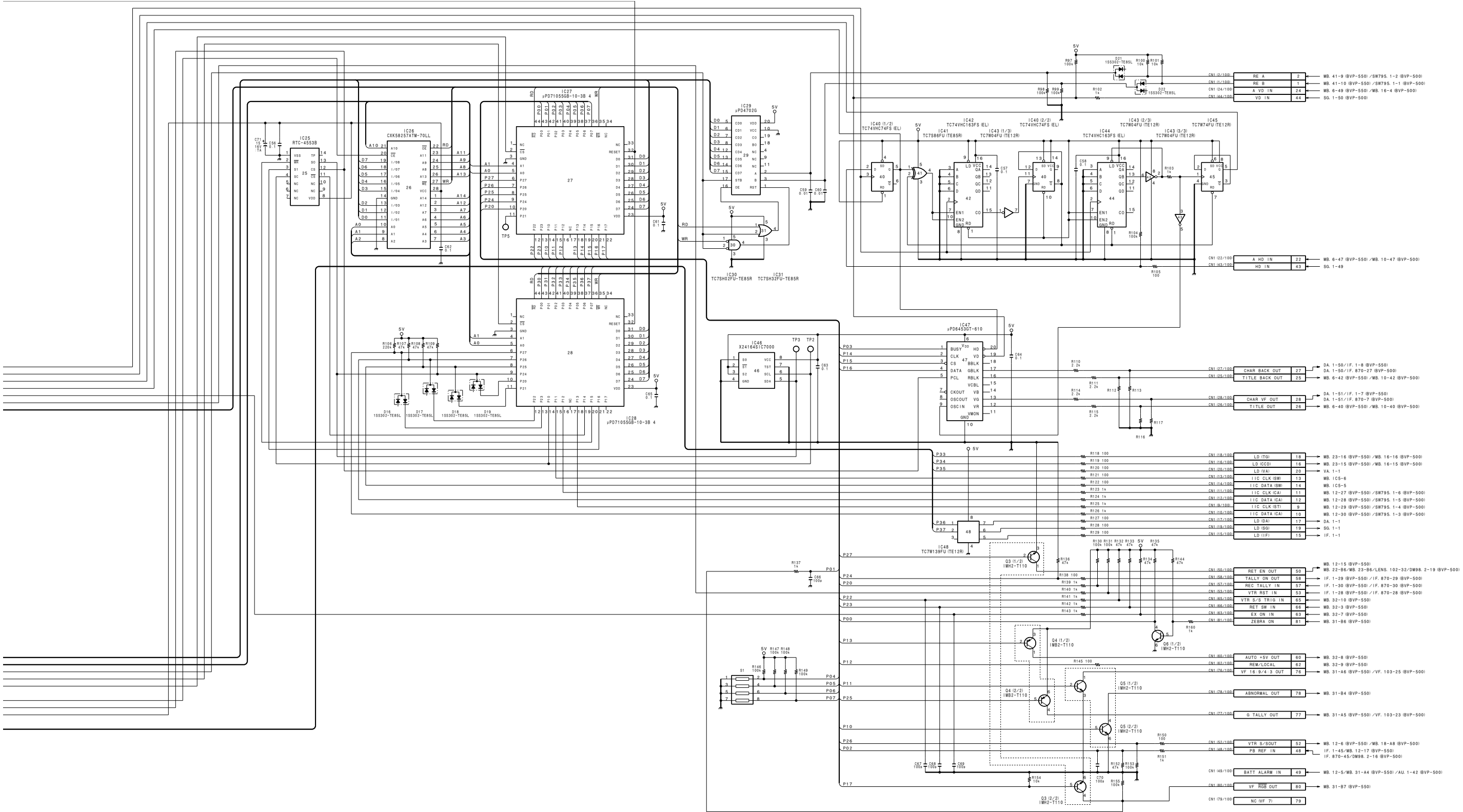


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5



AT-95 (2/2)
BOARD NO. 1-65227-448-21
LOT NO. 509-
B-VBVP550-AT95-12M

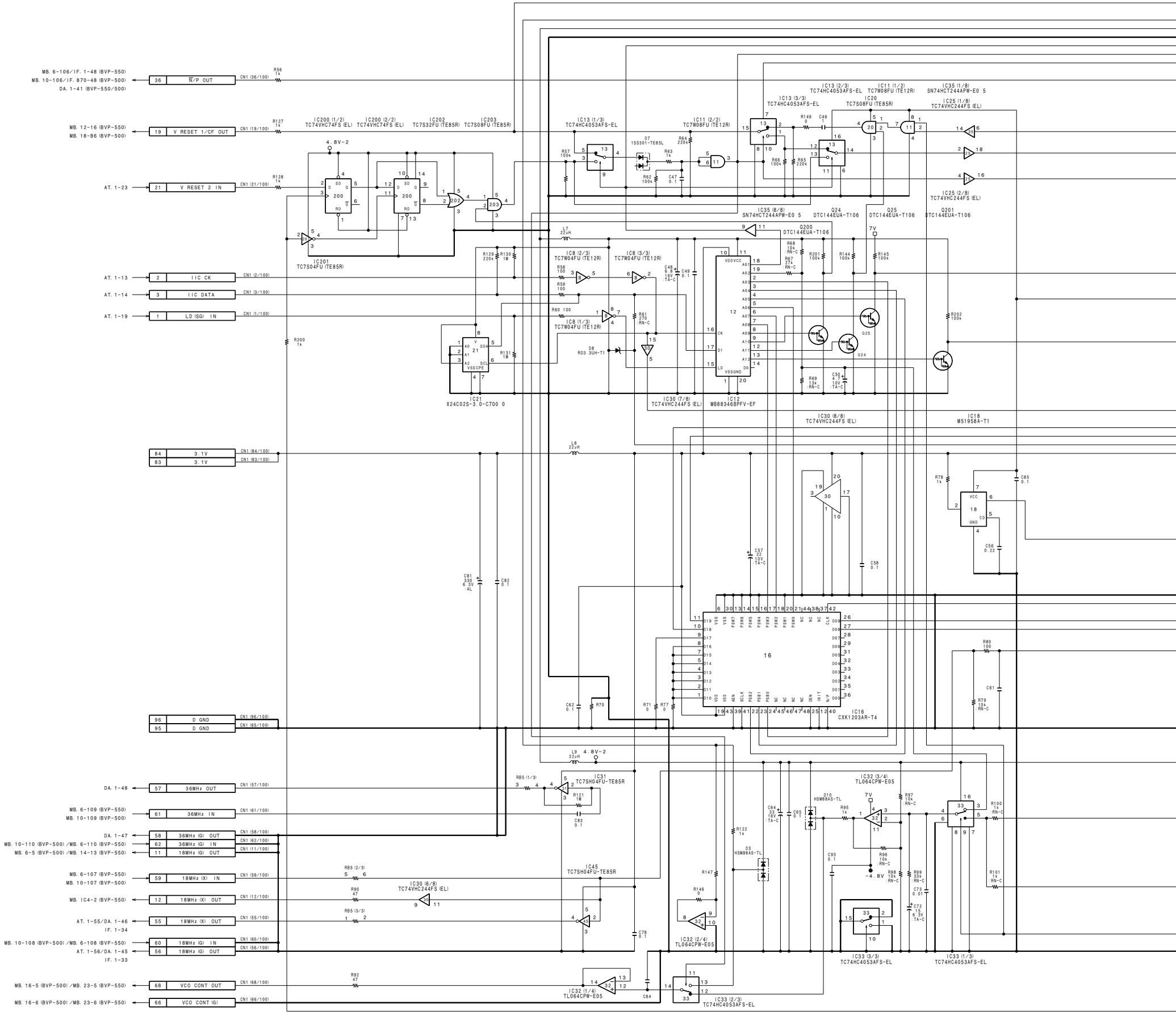
SG-234 BOARD

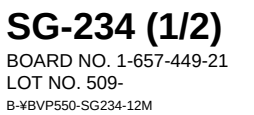
SG-234 (1-657-449-21)

*: B SIDE

CN1	C-1	* Q20	D-4
		* Q21	A-3
D1	A-2	Q22	B-3
* D2	A-2	Q23	G-4
D3	E-2	* Q24	F-1
* D4	A-1	* Q25	F-1
D5	B-3	Q26	D-3
D6	B-4	* Q200	E-1
* D7	D-3	* Q201	F-2
D8	F-1	Q202	A-4
D10	C-2	Q203	A-4
D11	C-3	Q204	B-4
D12	A-3	* Q205	A-3
* D13	D-1		
D14	A-3	RB1	E-1
* D200	B-4	RB2	F-1
* D201	E-3	RB3	D-1
		RB4	D-1
FL1	C-2	RB5	C-1
		RB10	D-1
IC3	A-2		
IC5	B-4		
IC8	F-1		
* IC11	D-3		
IC12	F-1		
IC13	D-3		
IC16	F-2		
* IC17	A-2		
IC18	F-4		
* IC20	D-3		
* IC21	F-1		
* IC22	F-3		
IC24	F-4		
IC25	E-2		
IC30	E-2		
* IC31	C-2		
IC32	D-2		
IC33	D-3		
* IC34	D-4		
IC35	D-4		
IC36	C-4		
IC37	C-3		
IC38	D-3		
* IC39	D-3		
* IC40	C-3		
IC41	D-3		
IC42	D-2		
* IC43	C-3		
IC44	B-3		
* IC45	D-2		
IC46	A-3		
* IC47	B-3		
IC48	A-3		
* IC200	D-1		
* IC201	D-1		
* IC202	D-1		
* IC203	D-1		
* IC204	A-4		
* IC206	B-4		
IC207	B-4		
* L1	A-1		
* L2	A-1		
* L4	B-1		
* L5	B-4		
* L6	C-4		
* L7	F-1		
L8	B-2		
L9	B-2		
Q1	A-2		
* Q2	A-2		
* Q4	B-2		
Q5	A-4		
Q6	A-4		
* Q7	B-4		
Q8	A-4		
* Q9	A-4		
Q10	C-4		
* Q11	A-4		
* Q12	C-3		
* Q14	C-3		
Q15	C-4		
* Q16	A-3		
* Q17	A-3		
* Q18	C-4		

BVP-500 (UC)
BVP-500 (J)
BVP-500P (CE)

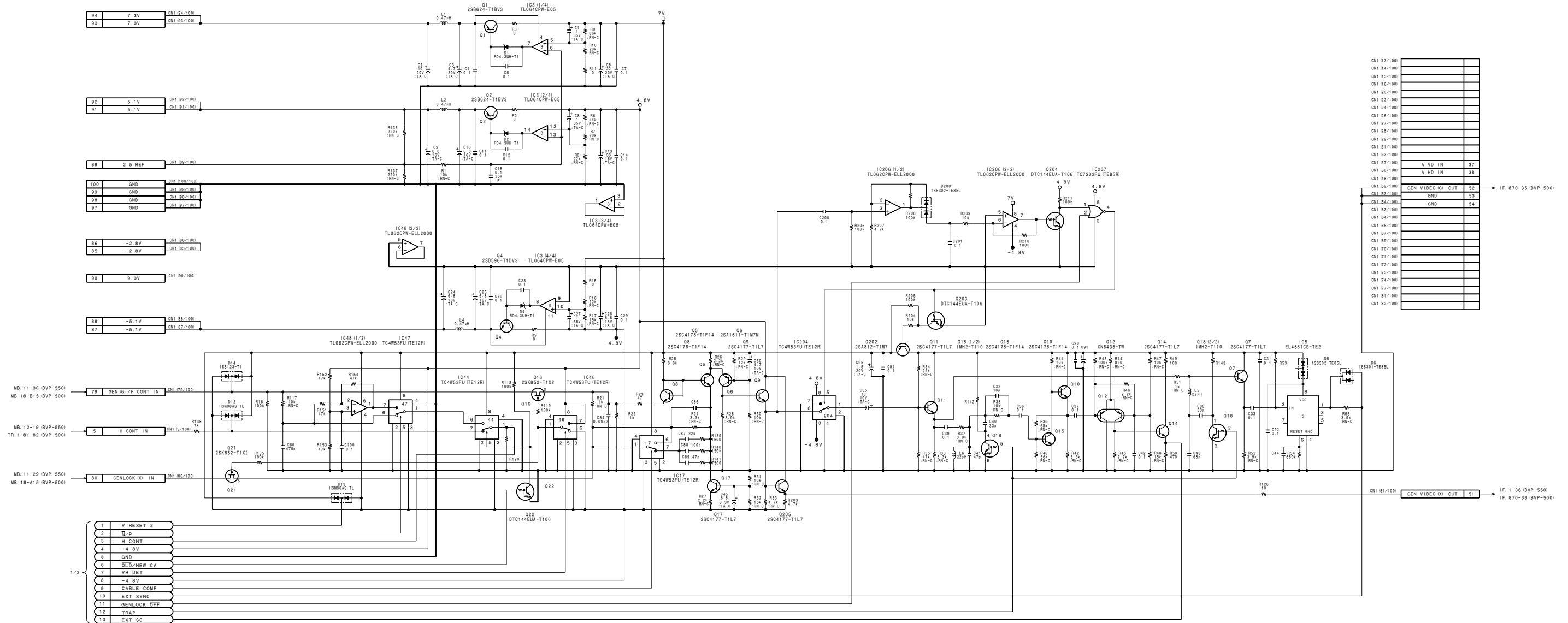




BVP-500 (UC)
BVP-500 (J)
BVP-500P (CE)

8
9

1



SG-234 (2/2)
BOARD NO. 1-657-449-21
LOT NO. 509-
B-¥BVP550-SG234-12M

DA-88 (1/2)

DA-88 BOARD

DA-88 (1-657-450-21)

*: B SIDE

CN1	C-1	L6	B-2	* Q103	C-2
		L7	A-3	* Q104	C-3
* D1	A-2	L8	A-3	* Q105	G-2
* D2	B-1	L9	B-1	* Q106	G-1
* D3	B-1	L10	D-2	* Q107	B-3
* D5	A-4	L11	F-1	* Q108	C-3
* D6	G-2	L12	G-1	* Q109	C-3
D7	F-2	L13	G-3	* Q110	E-4
* D9	C-1	L14	A-3	* Q111	E-4
* D10	D-3	L15	B-3	* Q112	E-4
* D11	G-2	L16	B-2	* Q113	F-4
D12	E-4	L17	B-2	* Q114	G-4
D13	G-2	L18	D-4	* Q115	G-4
* D14	E-3	L19	D-4	* Q117	D-3
D15	G-2	* L20	E-4		
D16	G-2	* L21	E-4	* RB1	D-2
* D17	G-3	* L22	F-4	* RB2	E-2
D24	B-3	L23	G-4	* RB3	E-2
D25	C-4	L24	G-1	RB4	F-2
D26	G-4	L25	F-1	RB5	F-1
* D100	A-3			* RB6	F-2
* D101	C-2	* Q1	A-2	* RB7	F-2
* D102	G-2	Q2	A-2		

E1	F-4	* Q4	A-3	TP2	C-1
		* Q7	A-3	TP3	D-4
FL1	A-4	* Q8	A-3	TP4	E-4
FL2	A-3	* Q9	A-3	TP5	F-4
FL3	B-3	* Q10	A-2		
FL4	B-2	* Q11	B-3		
FL5	C-2	* Q12	A-4		
FL6	D-3	* Q13	B-4		
FL7	E-3	Q14			
FL8	F-3	Q15	A-4		

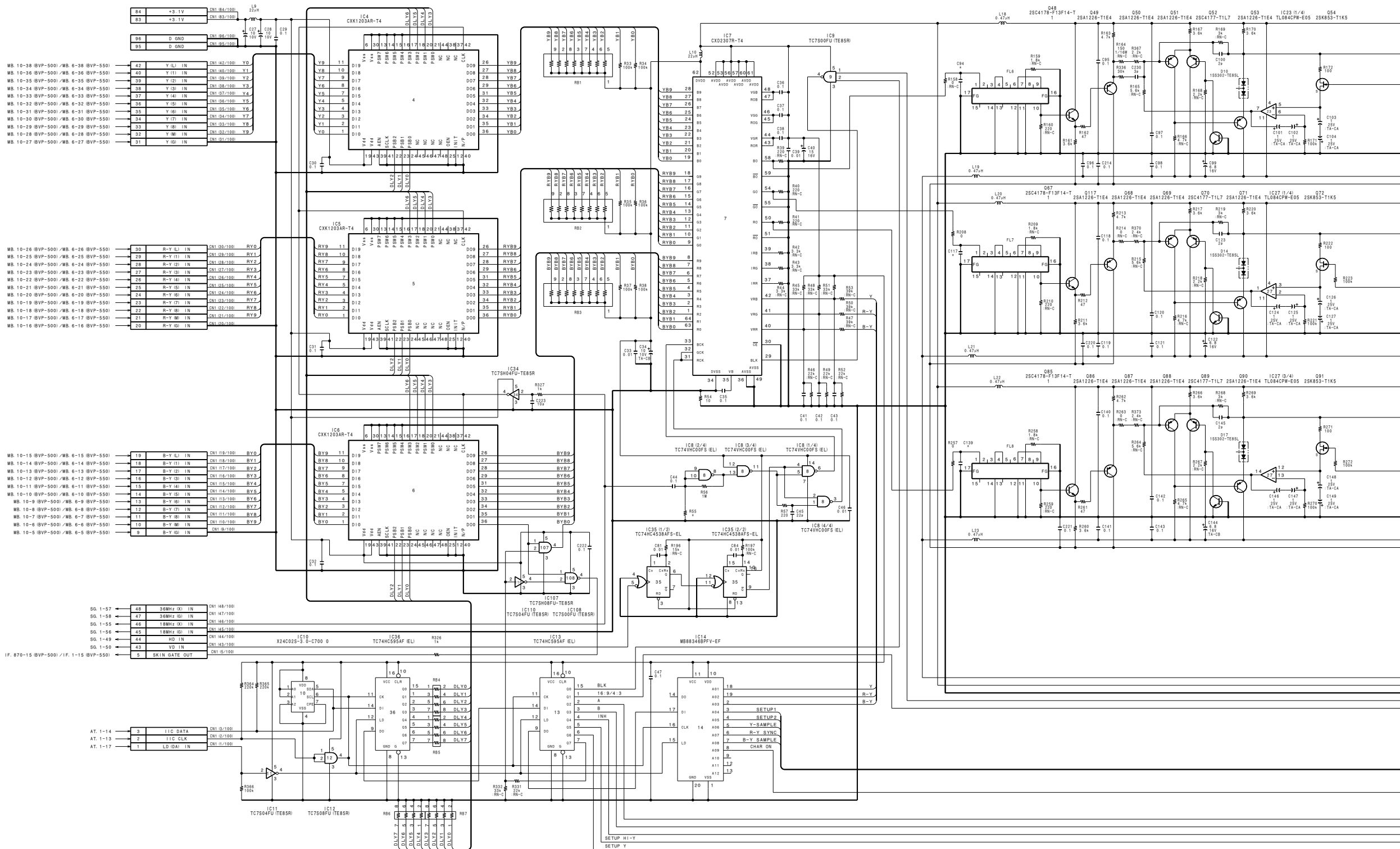
* IC1	A-1	Q17	B-4
* IC2	B-1	* Q18	B-4
* IC3	A-2	* Q19	B-3
* IC4	D-1	* Q20	A-2
* IC5	E-1	* Q22	C-3
* IC6	E-1	Q23	B-3
* IC7	D-2	* Q25	C-4
* IC8	D-1	* Q26	B-4
IC9	E-2	* Q27	B-2
* IC10	E-1	* Q28	B-1
IC11	F-1	* Q29	C-2
IC12	F-1	* Q30	B-2
* IC13	E-2	* Q32	C-2
IC14	F-2	* Q33	C-2

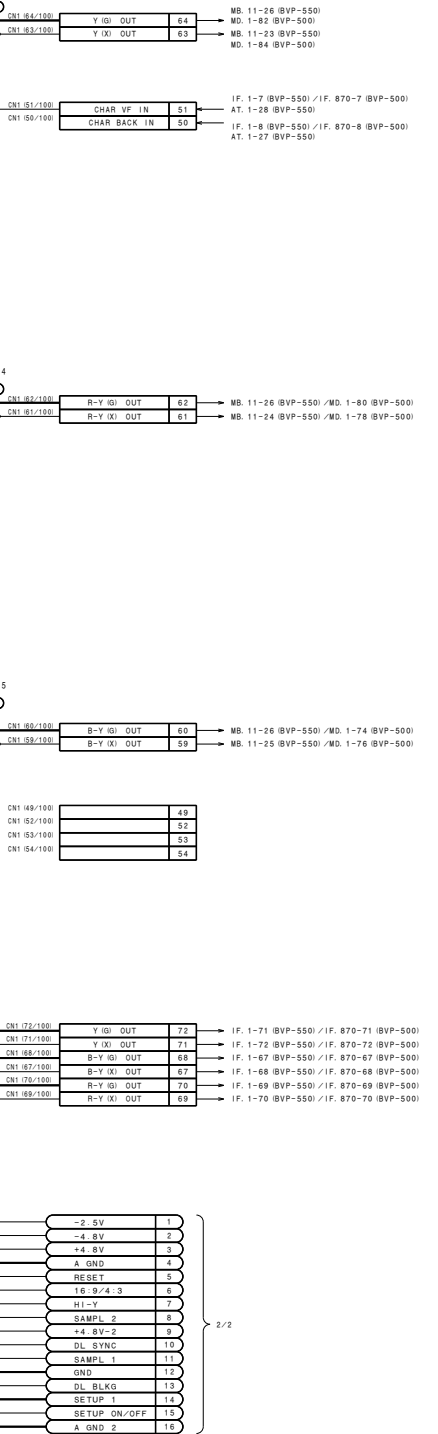
IC16	B-4	Q43	C-2
* IC17	B-4	Q44	C-1
* IC18	C-4	* Q45	F-1
IC19	G-2	* Q46	G-1
* IC20	C-2	* Q47	G-1
IC23	C-3	* Q48	D-4
* IC24	D-4	* Q49	D-3
IC25	C-3	* Q50	D-4
IC26	C-4	* Q51	D-4
IC27	E-3	* Q52	D-4
IC28	F-4	* Q53	D-4
IC29	C-4	* Q54	D-4
IC34	D-1	Q59	C-4
* IC35	E-1	Q63	C-4

* IC37	C-3	* Q68	E-3
IC100	F-2	* Q69	E-3
IC101	C-3	* Q70	E-3
IC102	C-3	* Q71	E-3
IC103	G-2	Q72	E-3
* IC104	G-2	* Q73	E-4
IC105	G-2	Q75	E-4
IC106	G-2	Q79	E-4
IC107	E-2	* Q83	C-4
IC108	E-2	* Q84	C-4
IC109	G-2	* Q85	F-3
IC110	E-2	Q86	F-3

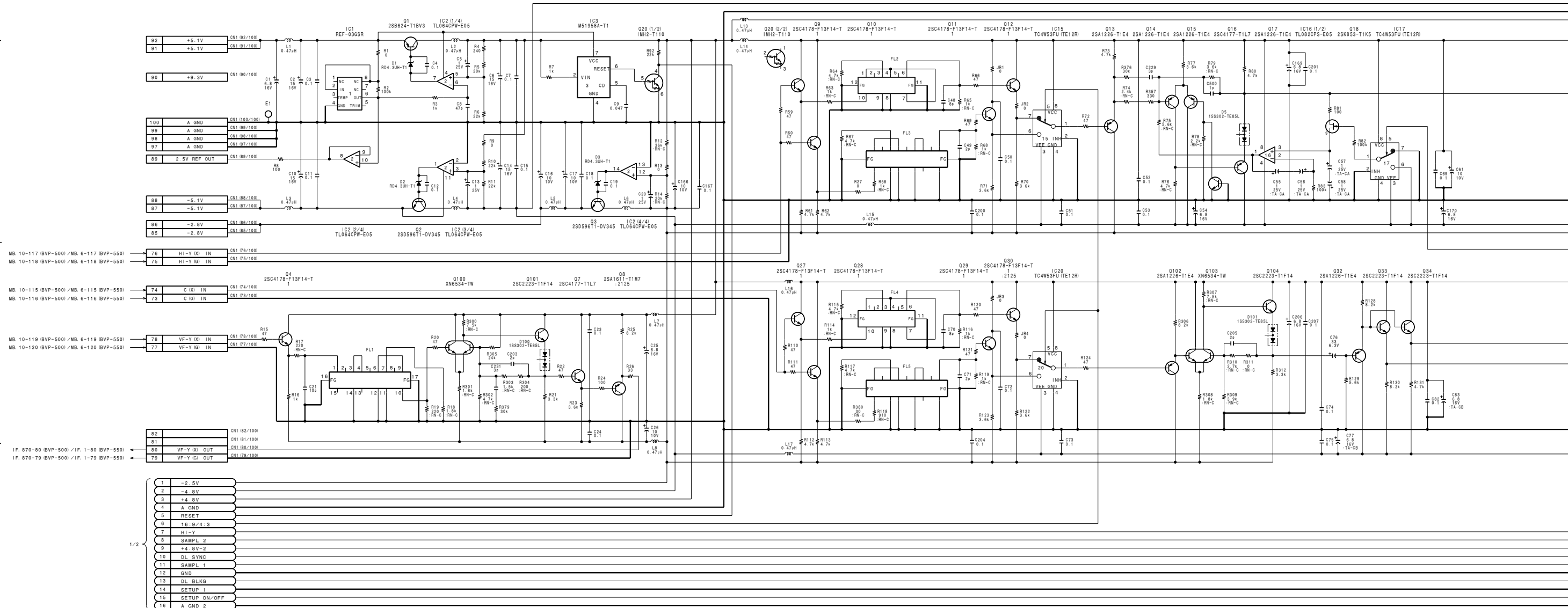
* JR1	B-4	* Q88	G-3
* JR2	A-4	* Q89	G-3
* JR3	C-2	* Q90	G-3
* JR4	B-3	Q91	G-3
		* Q92	F-4
L1	A-1	Q94	G-4
L2	A-2	Q98	G-4
L3	A-1	* Q100	A-4
L4	A-2	* Q101	A-4
L5	B-1	* Q102	C-2

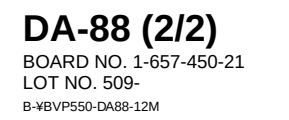
BVP-500 (UC)
BVP-500 (J)
BVP-500P (CE)





BVP-500 (UC)
BVP-500 (J)
BVP-500P (CE)

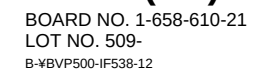




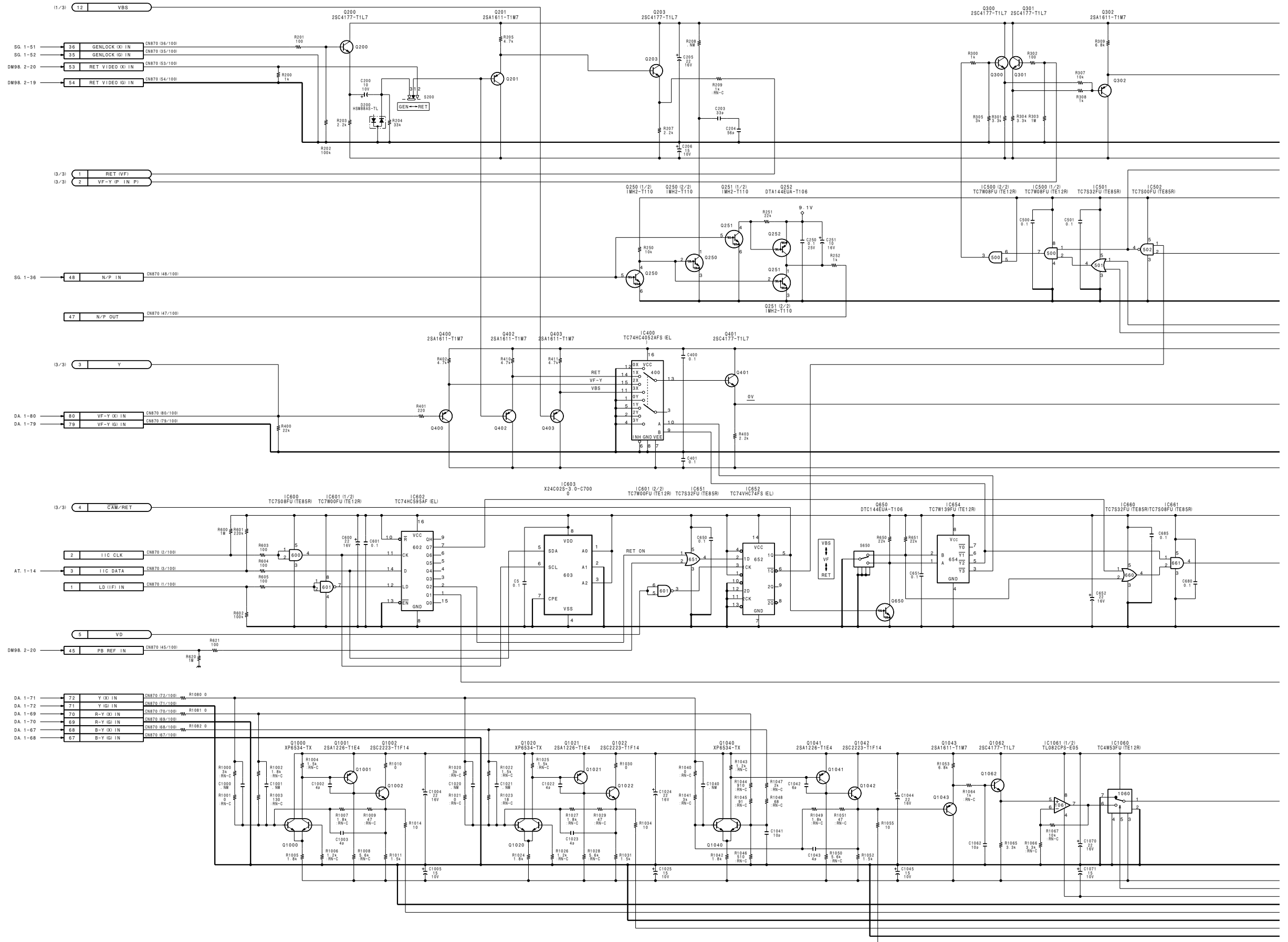
IF-538 BOARD

IF-538 (1-658-610-21)			
*: B SIDE			
CN870	C-1	* L853	C-3
		* L870	B-3
* D10	A-1	L871	B-2
* D20	A-2	* L872	B-2
* D30	A-1	L900	F-1
* D40	A-3	L1060	F-3
* D100	D-2	* L1061	E-3
* D200	C-2	* L1062	F-4
* D820	C-4		
* D870	C-3	* Q10	A-1
* D871	C-2	* Q20	A-2
* D872	C-2	* Q30	A-1
* D1062	F-4	* Q40	A-3
		* Q100	D-3
E10	F-4	* Q101	D-3
		* Q102	D-2
* IC10	A-2	* Q200	C-1
IC120	D-2	* Q201	C-2
IC200	C-2	* Q202	C-2
IC350	C-2	* Q203	C-2
IC351	B-2	Q250	C-1
IC380	C-1	Q251	C-1
IC400	E-3	* Q252	C-1
IC450	E-2	Q300	B-2
IC451	E-2	* Q302	C-2
IC500	E-2	* Q350	C-2
* IC501	E-2	* Q351	B-1
* IC502	E-2	* Q380	C-1
IC550	E-2	* Q400	D-2
* IC600	F-1	* Q401	E-3
* IC601	F-1	* Q450	D-2
IC602	F-2	* Q451	E-2
IC603	F-2	* Q550	E-2
* IC651	F-2	* Q551	E-2
IC652	F-2	* Q650	B-4
* IC654	B-4	Q680	E-1
* IC655	C-4	* Q681	E-1
* IC660	F-2	* Q700	A-3
* IC661	E-1	* Q701	A-3
* IC662	E-1	* Q702	A-3
* IC680	E-1	* Q800	D-3
IC700	A-4	* Q801	D-3
IC701	A-3	Q818	B-3
IC800	D-3	* Q819	E-4
IC801	D-3	* Q820	E-4
IC802	D-3	* Q821	E-4
IC803	D-3	* Q822	D-4
IC820	E-4	* Q823	D-4
* IC821	C-4	* Q824	D-4
IC850	C-3	* Q825	D-4
IC851	A-4	* Q826	D-4
IC852	B-4	* Q827	D-3
IC870	B-3	* Q828	C-4
IC871	C-2	* Q870	C-3
IC872	B-3	Q871	B-2
* IC873	B-3	Q872	C-2
* IC874	B-3	* Q873	B-2
IC900	F-1	* Q874	B-2
* IC901	F-1	* Q875	B-2
IC902	F-2	* Q876	B-2
* IC903	F-2	* Q1000	F-3
* IC904	F-1	Q1001	F-3
IC1060	F-4	Q1002	F-3
IC1061	F-4	* Q1020	F-3
IC1062	G-3	Q1021	F-3
* IC1063	F-3	Q1022	F-3
		* Q1040	E-4
L10	A-1	Q1041	E-4
L20	A-2	Q1042	F-4
L30	A-1	* Q1043	F-4
L40	A-2	* Q1062	F-4
* L140	D-1		
* L141	D-1	RV100	D-4
* L200	C-3		
* L351	B-1	S200	C-2
L352	C-2	S650	B-4
* L353	B-1		
* L381	E-2	TP820	C-4
L382	E-1	TP870	B-2
* L450	D-1		
L451	D-2		
* L452	D-1		
L550	E-1		
* L551	E-2		
L700	A-3		
* L800	C-3		
* L820	D-4		
* L850	C-3		
* L851	A-4		
* L852	B-3		

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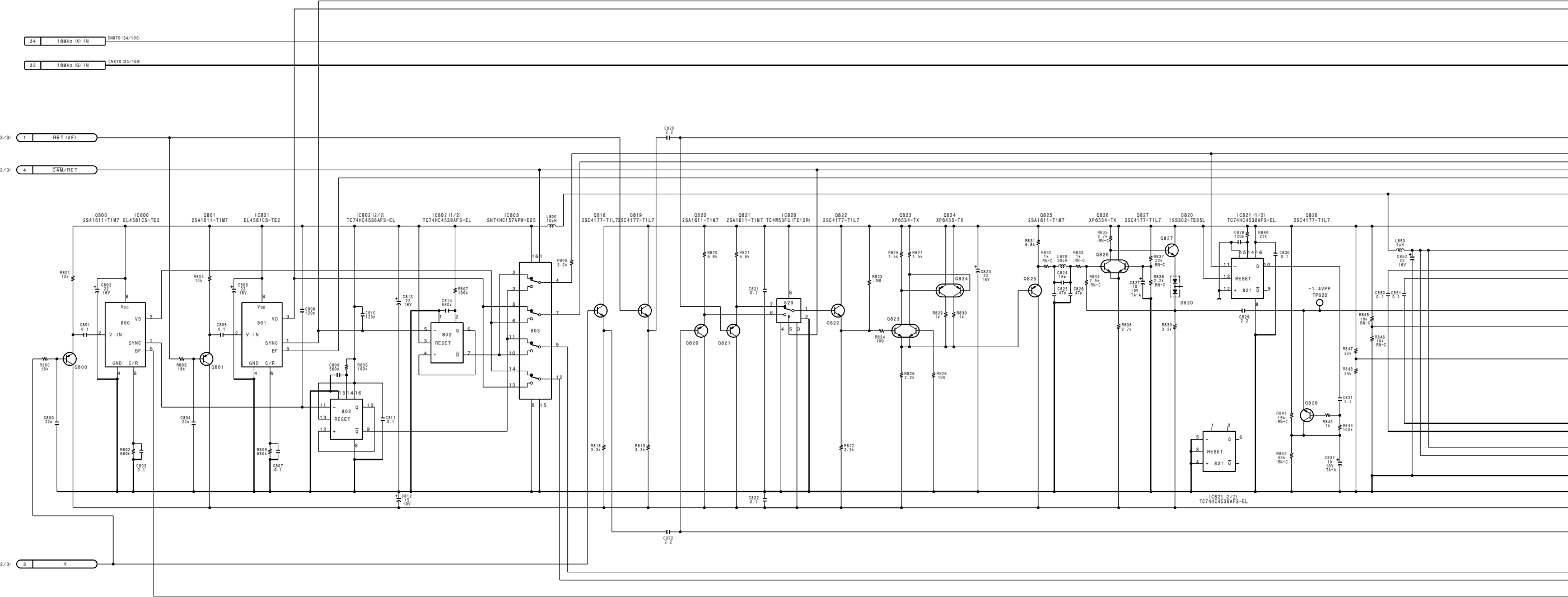


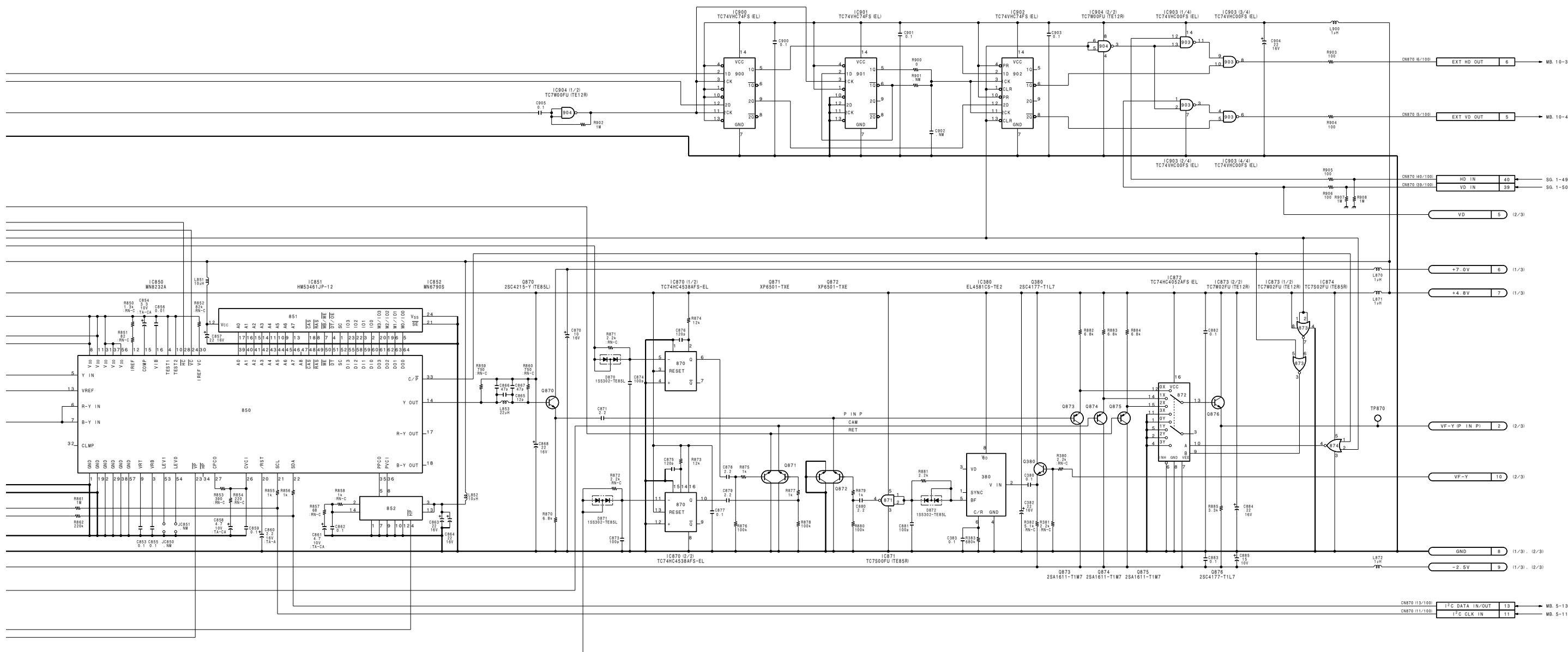
BVP-500 (UC)
BVP-500 (J)
BVP-500P (CE)





BVP-500 (UC)
BVP-500 (J)
BVP-500P (CE)





IF-538 (3/3)
BOARD NO. 1-658-610-21
LOT NO. 509-
B-VBP500-IF538-12

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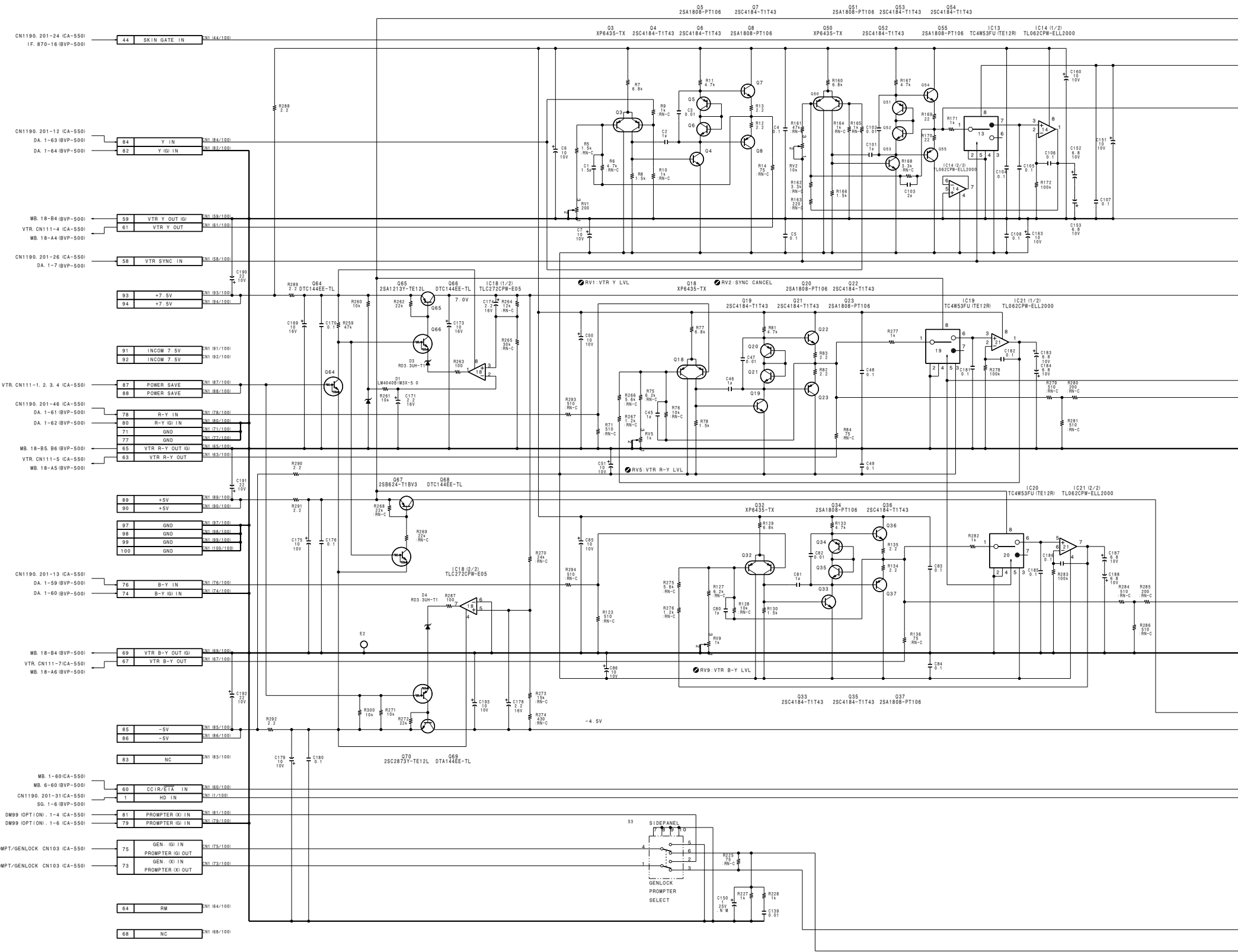
MD-103 BOARD

BVP-500 (UC)
BVP-500 (J)
BVP-500P (CE)

MD-103 (1-6528-119-21)

*, B SIDE

CN1	C-1		
* D1	B-1	* Q44	F-1
D3	B-2	* Q45	G-2
* D4	B-1	* Q46	F-1
		* Q50	A-1
E1	C-1	* Q51	A-1
E2	A-4	* Q52	A-1
		* Q53	A-2
FL1	C-3	* Q54	A-2
FL2	C-2	* Q55	A-2
FL3	C-1	* Q60	C-3
FL4	D-3	* Q61	C-3
FL5	D-2	* Q62	C-3
FL6	E-3	* Q63	D-4
FL7	F-2	* Q64	B-1
FL8	F-2	* Q65	B-2
FL9	C-2	* Q66	B-1
		* Q67	C-1
IC1	C-3	* Q68	C-1
IC2	C-3	* Q69	B-1
IC3	C-2	* Q70	B-1
IC4	D-2		
IC5	D-1	RV1	A-3
IC6	E-2	RV2	A-3
IC12	F-2	RV3	B-2
IC13	A-2	RV4	C-3
IC14	A-2	RV5	A-4
IC16	F-1	RV6	D-3
IC17	B-3	RV7	D-4
* IC18	B-1	RV8	D-4
* IC19	B-4	RV9	A-4
* IC20	C-4	RV11	E-3
* IC21	B-4	RV12	D-3
		RV13	F-3
L3	B-3	S3	B-4
L4	C-4		
L5	B-2	TP1	C-3
L6	B-2	TP2	C-2
L9	D-4	TP3	E-3
L10	E-3	TP5	C-1
L11	E-1	TP6	E-2
* L12	C-1	TP9	F-1
L15	E-4		
L16	E-4	X1	F-2
L20	F-3		
L21	E-2		
L22	E-3		
L23	F-3		
* Q3	A-2		
* Q4	A-2		
* Q5	A-2		
* Q6	A-2		
* Q7	A-2		
* Q8	A-2		
* Q9	C-3		
* Q10	C-3		
* Q11	C-3		
* Q12	C-3		
* Q13	C-3		
* Q14	C-3		
* Q15	C-1		
* Q18	A-4		
* Q19	A-3		
* Q20	A-3		
* Q21	A-3		
* Q22	A-3		
* Q23	A-3		
* Q24	D-3		
* Q25	D-3		
* Q26	D-2		
* Q27	E-1		
* Q28	D-1		
* Q29	D-1		
* Q32	A-4		
* Q33	A-3		
* Q34	A-3		
* Q35	A-3		
* Q36	A-3		
* Q37	A-3		
* Q38	E-3		
* Q39	E-3		
* Q40	E-2		
* Q43	F-2		

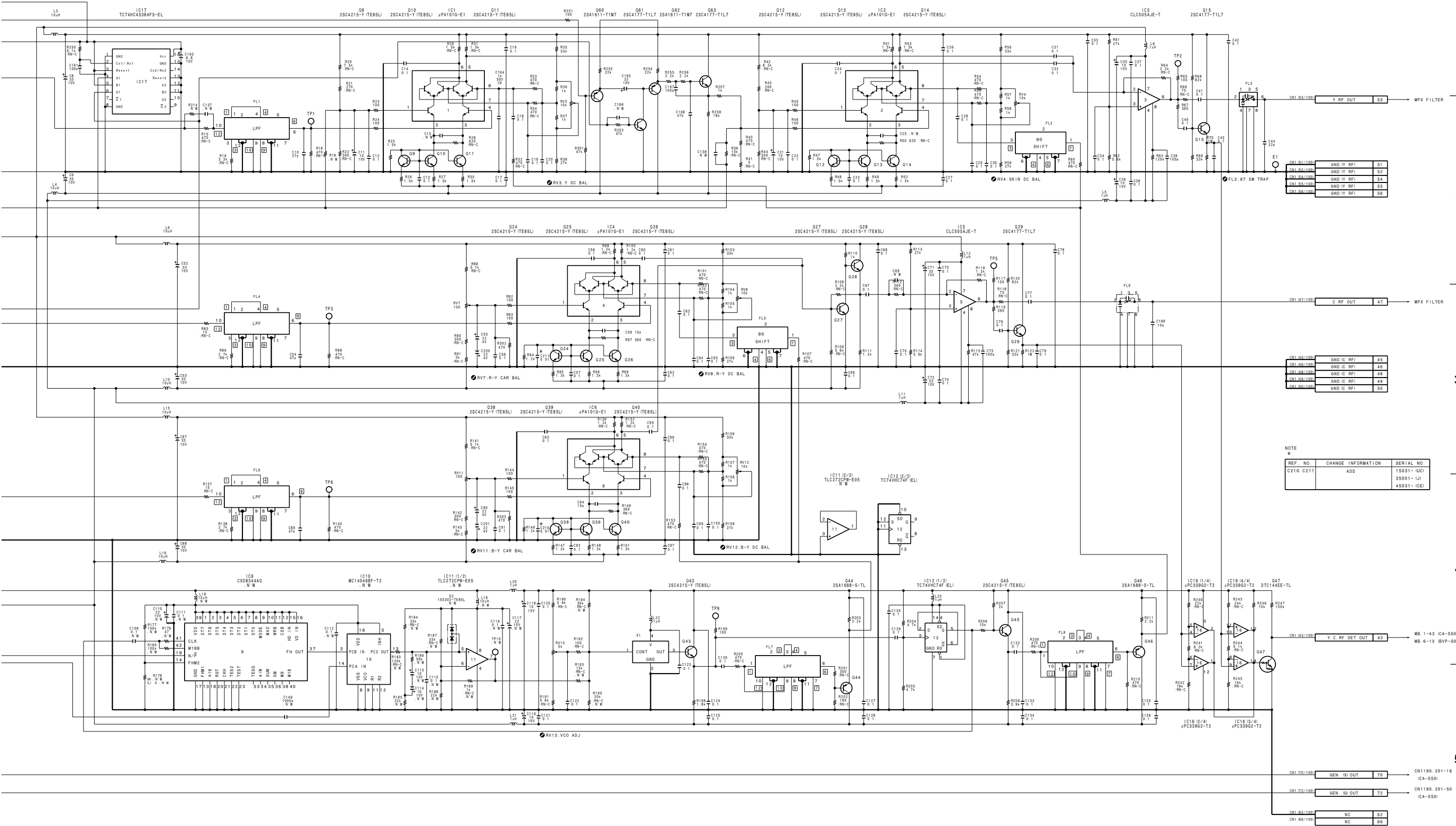


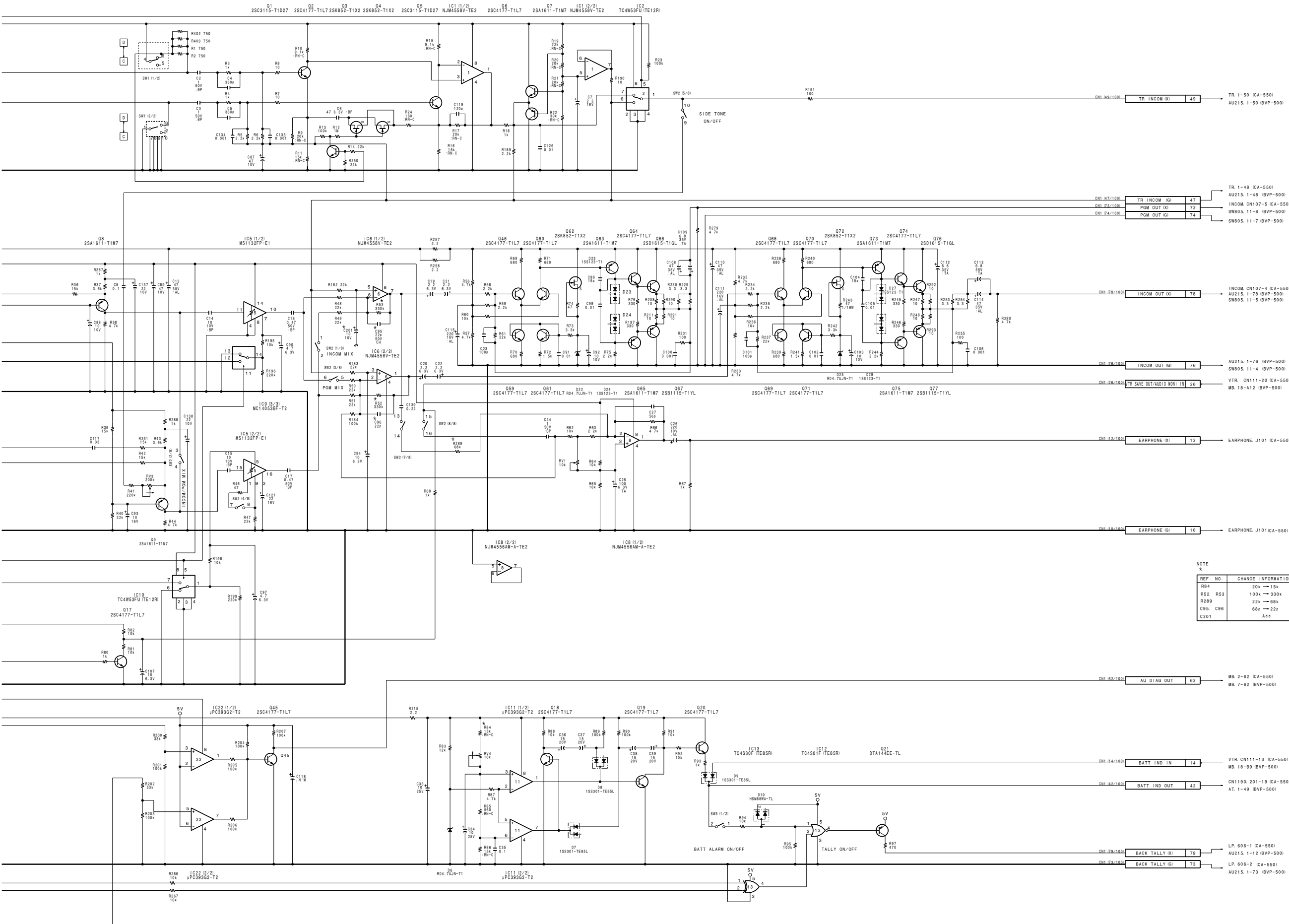
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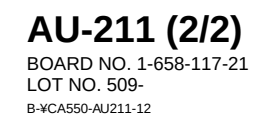
4

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TR-90 BOARD

TR-90 (1-658-118-21)

*, B SIDE

- CF1 D-2

CF2 E-2

CF3 F-2

CF4 G-2

CF200 B-4

CF201 B-4

CF202 A-4

CF203 A-4

CN1 C-1

D1 D-4

D2 E-3

D3 E-3

D4 E-4

D5 E-3

D6 E-3

D7 D-2

D8 F-3

D9 F-3

D10 F-3

D11 G-3

D12 F-2

D13 F-2

D16 F-1

D17 G-1

D18 F-1

D19 A-1

D20 A-1

D21 A-1

D200 D-2

D201 B-1

D202 B-3

D203 A-3

E1 E-2

FL200 D-1

FL201 D-4

FL202 B-4

IC1 F-1

IC2 F-3

IC3 F-3

IC4 G-1

IC5 F-1

IC6 F-4

IC7 A-1

IC8 E-1

IC200 D-4

IC201 D-2

IC202 B-3

IC204 B-1

IC205 B-1

IC206 B-4

IC207 A-4

LV1 E-3

LV2 E-3

LV3 F-3

LV4 F-2

LV200 D-3

LV201 B-2

L1 A-1

L2 D-2

L3 B-1

L4 F-2

L6 F-2

L200 D-2

L201 D-2

L202 C-1

L203 B-1

L204 B-3

L205 B-3

L206 A-1

L207 A-3

L208 A-3

L209 C-1

Q1 E-3

Q3 E-2

Q4 E-3

Q6 E-2

Q7 D-1

Q8 D-1
- * Q9 D-1

* Q10 D-1

* Q11 D-1

* Q12 D-1

* Q13 F-3

* Q15 F-2

* Q16 E-1

* Q17 F-1

* Q18 F-1

* Q19 G-3

* Q20 F-2

* Q21 F-2

* Q22 G-3

* Q23 F-1

* Q24 B-1

* Q25 B-1

* Q135 A-2

* Q136 A-1

* Q137 A-1

* Q139 A-1

* Q141 E-4

* Q142 E-4

* Q143 F-4

* Q144 E-2

* Q200 D-2

* Q201 D-2

* Q202 D-2

* Q203 B-3

* Q204 A-4

* Q205 B-3

* Q206 A-4

* Q207 A-3

RV1 D-4

RV2 E-4

RV3 F-4

RV200 C-2

TP1 E-2

TP2 E-2

TP3 D-1

TP4 F-2

TP200 D-2

TP201 D-4

TP203 B-3

TP204 A-3

TP206 B-1

T200 B-2

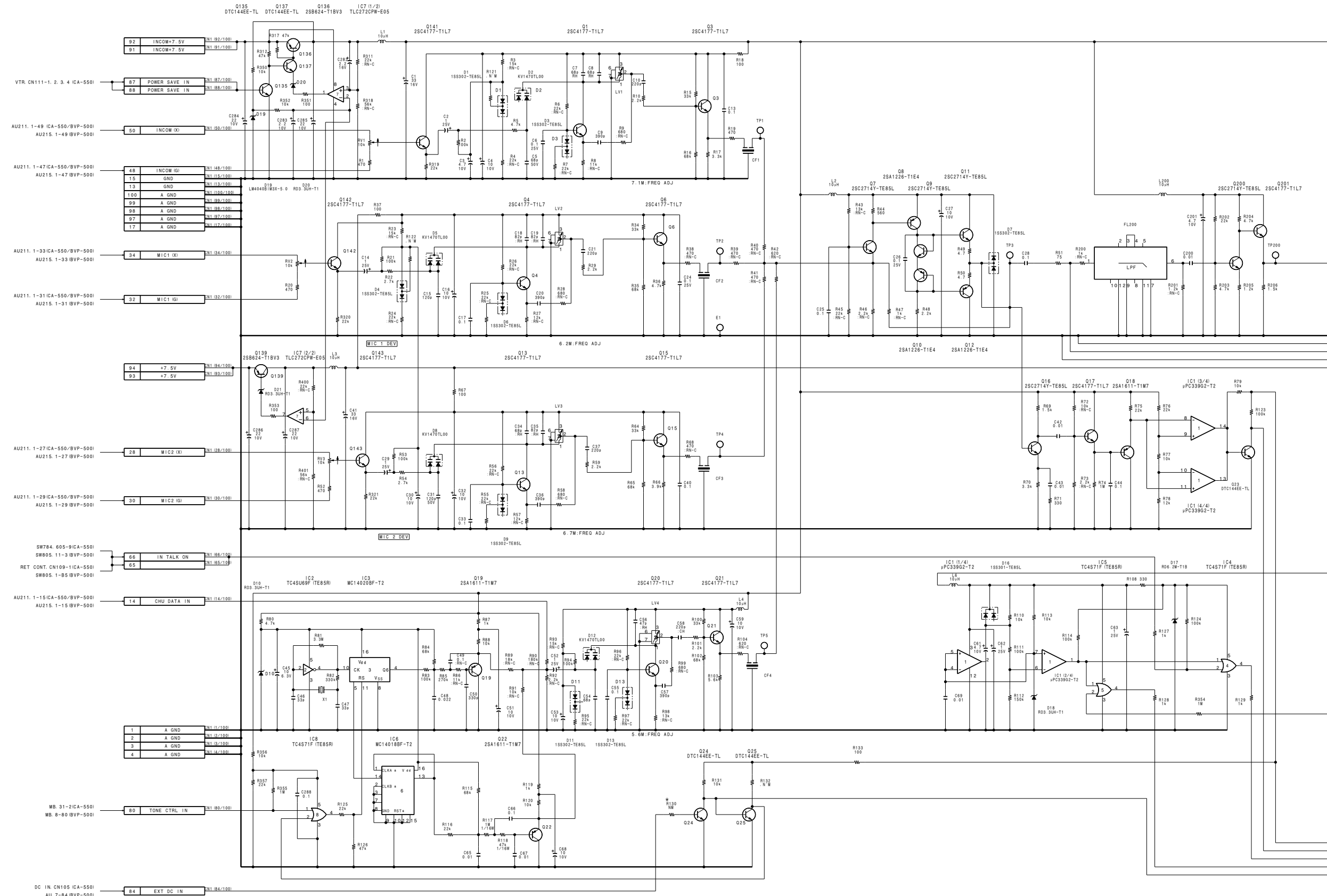
T201 B-2

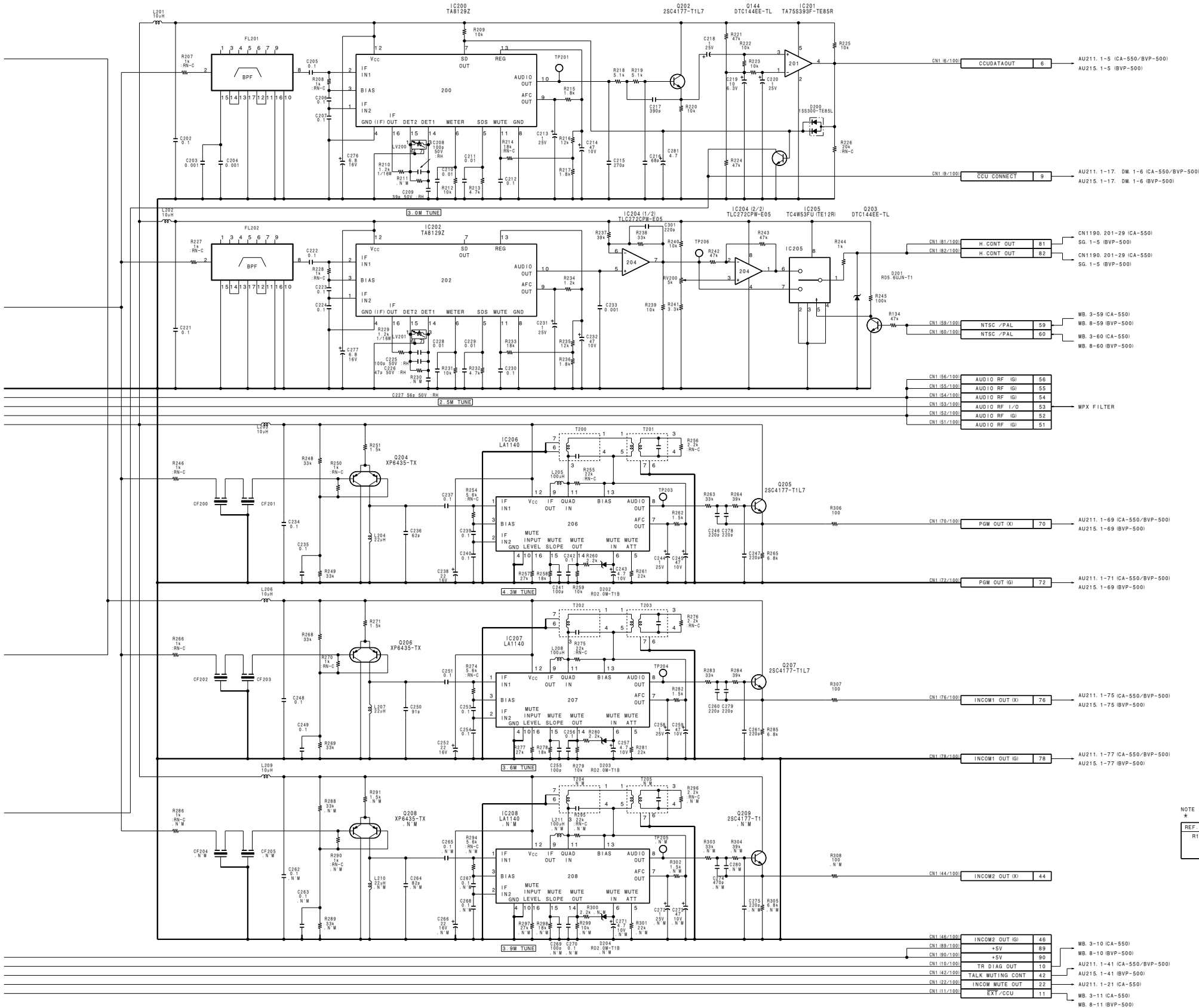
T202 A-2

T203 A-2

X1 F-3

BVP-500 (UC)
BVP-500 (J)
BVP-500P (CE)

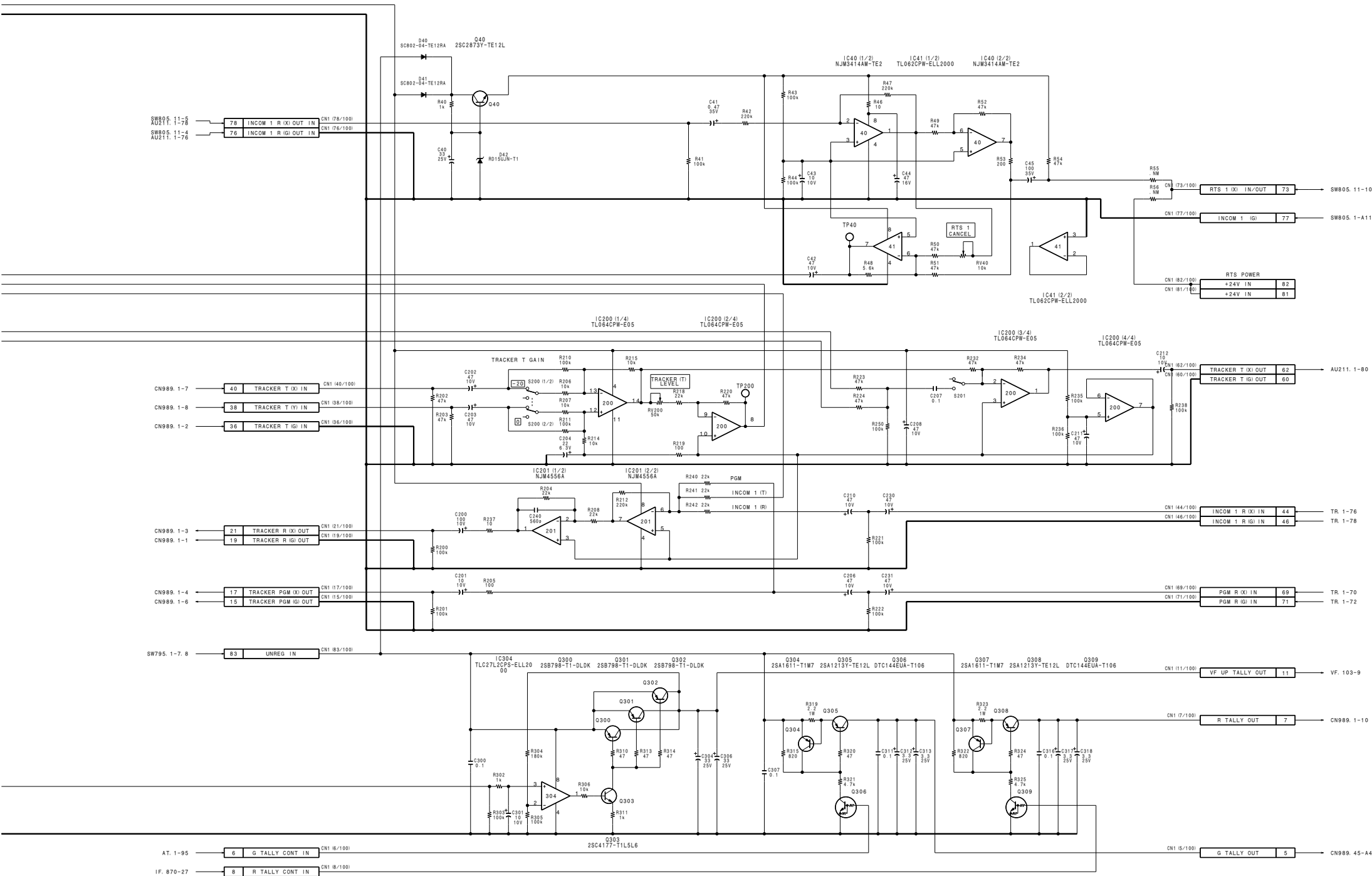




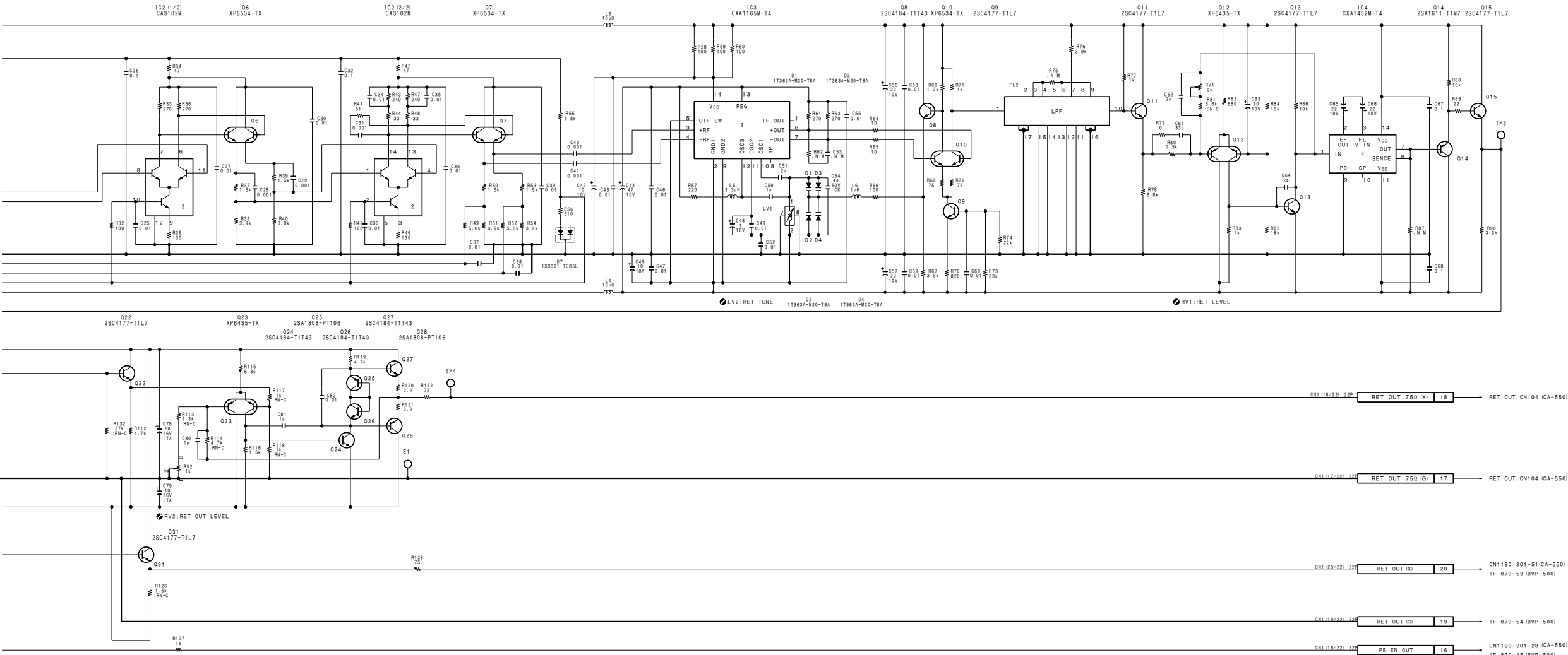
NOTE		
REF. NO.	CHANGE INFORMATION	SERIAL NO.
R130	DELETE	15001~ (UG)
		35001~ (LJ)
		45001~ (CE)

TR-90

BOARD NO. 1-658-118-21
LOT NO. 509-
B-ICA550-TR90-12



AU-215
BOARD NO. 1-658-611-21
LOT NO. 509-
B-BVBP500-AU215-11

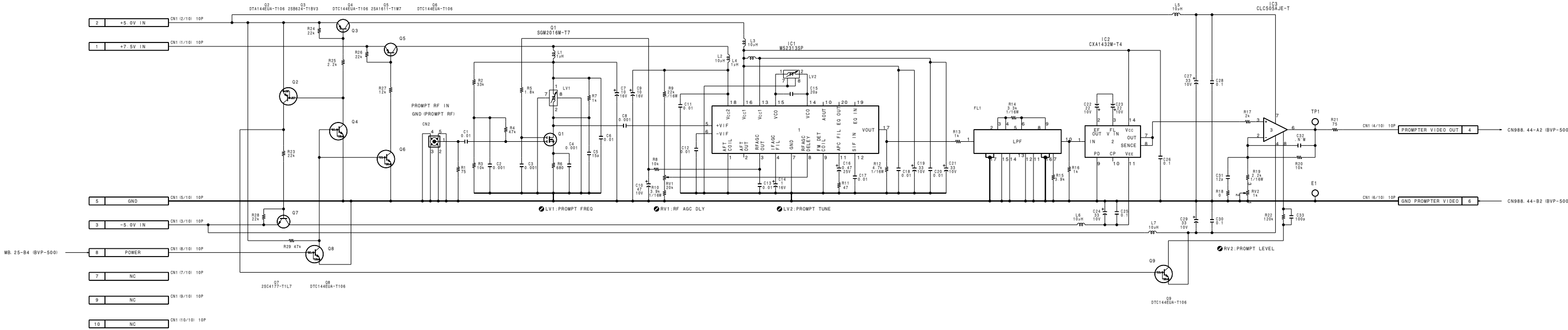


DM-98

BOARD NO. 1-658-120-21
LOT NO. 509-
B-¥CA550-DM98-12

DM-99 BOARD

BVP-500 (UC)
BVP-500 (J)
BVP-500P (CE)



DM-99 (1-658-121-21)

*: B SIDE

- * CN1

B-1
- CN2

B-2
- E1

G-2
- FL1

F-4
- IC1

D-5
- * IC2

H-5
- * IC3

H-3
- LV1

C-5
- LV2

D-3
- L1

C-4
- L2

F-3
- L3

E-3
- L4

D-3
- L5

H-2
- L6

G-4
- L7

G-3
- Q1

B-4
- * Q2

G-3
- * Q3

G-2
- * Q4

F-3
- * Q5

F-3
- * Q6

F-2
- * Q7

G-3
- * Q8

F-2
- * Q9

G-3
- RV1

E-5
- RV2

G-3
- TP1

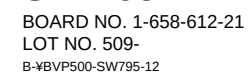
G-3

DM-99

BOARD NO. 1-658-121-21

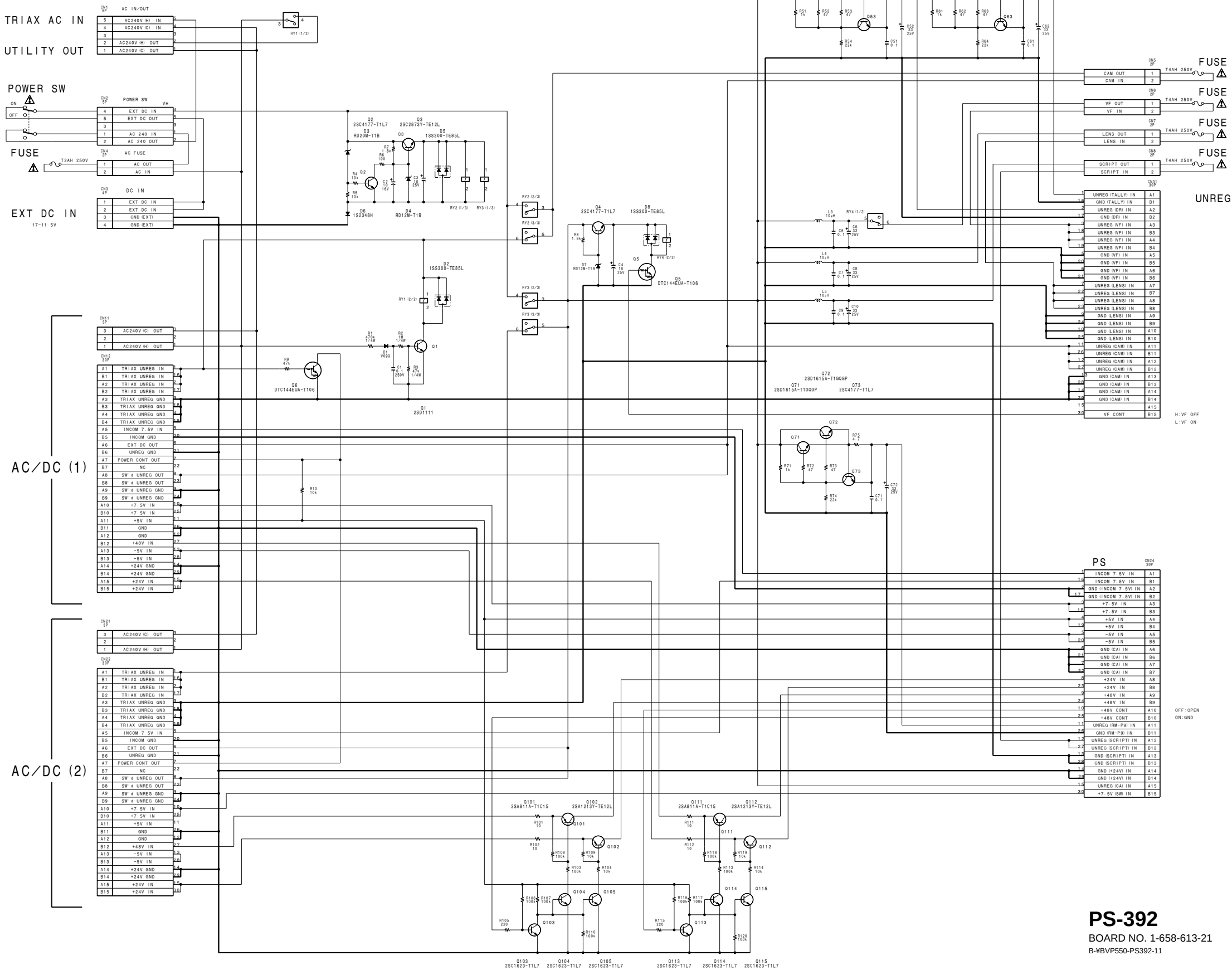
LOT NO. 509-

B-YCA550-DM99-12



PS-392 BOARD

BVP-500 (UC)
BVP-500 (J)
BVP-500P (CE)



PS-392
BOARD NO. 1-658-613-21
B-VBVP550-PS392-11

MB-637 BOARD

BVP-500 (UC)
BVP-500 (J)
BVP-500P (CE)

1

UP TALLY			
CN13			
1	CAM +12V	31-A1	
2	UP TALLY IN	9-9	
3	GND	31-B1	

PA			
CN14			
1	B (G) IN	1-69	
2	B (X) IN	1-70	
3	G (G) IN	1-71	
4	G (X) IN	1-72	
5	R (G) IN	1-73	
6	R (X) IN	1-74	
7	NC		
8	NC		

2

PR-211 (2)			
CN11			
24	2.5V REF IN		
23	G B SHADING OUT	1-79	
22	R B SHADING OUT	1-80	
21	B B SHADING OUT	1-78	
20	B SHADING GND	1-77	
19	G W SHADING OUT	1-65	
18	R W SHADING OUT	1-66	
17	B W SHADING OUT	1-64	
16	W SHADING GND	1-63	
15	G FEEDBACK OUT	1-59	
14	R FEEDBACK OUT	1-60	
13	B FEEDBACK OUT	1-58	
12	FEEDBACK GND	1-57	
11	B (X) IN	1-50	
10	B (G) IN	1-49	
9	R (X) IN	1-54	
8	R (G) IN	1-53	
7	G (X) IN	1-52	
6	G (G) IN	1-51	
5			
4	TEST SAW (X) OUT	1-26	
3	TEST SAW (G) OUT	1-25	
2	HTSG OUT	16-11	
1	H CLP IN	1-12, 16-13	

3

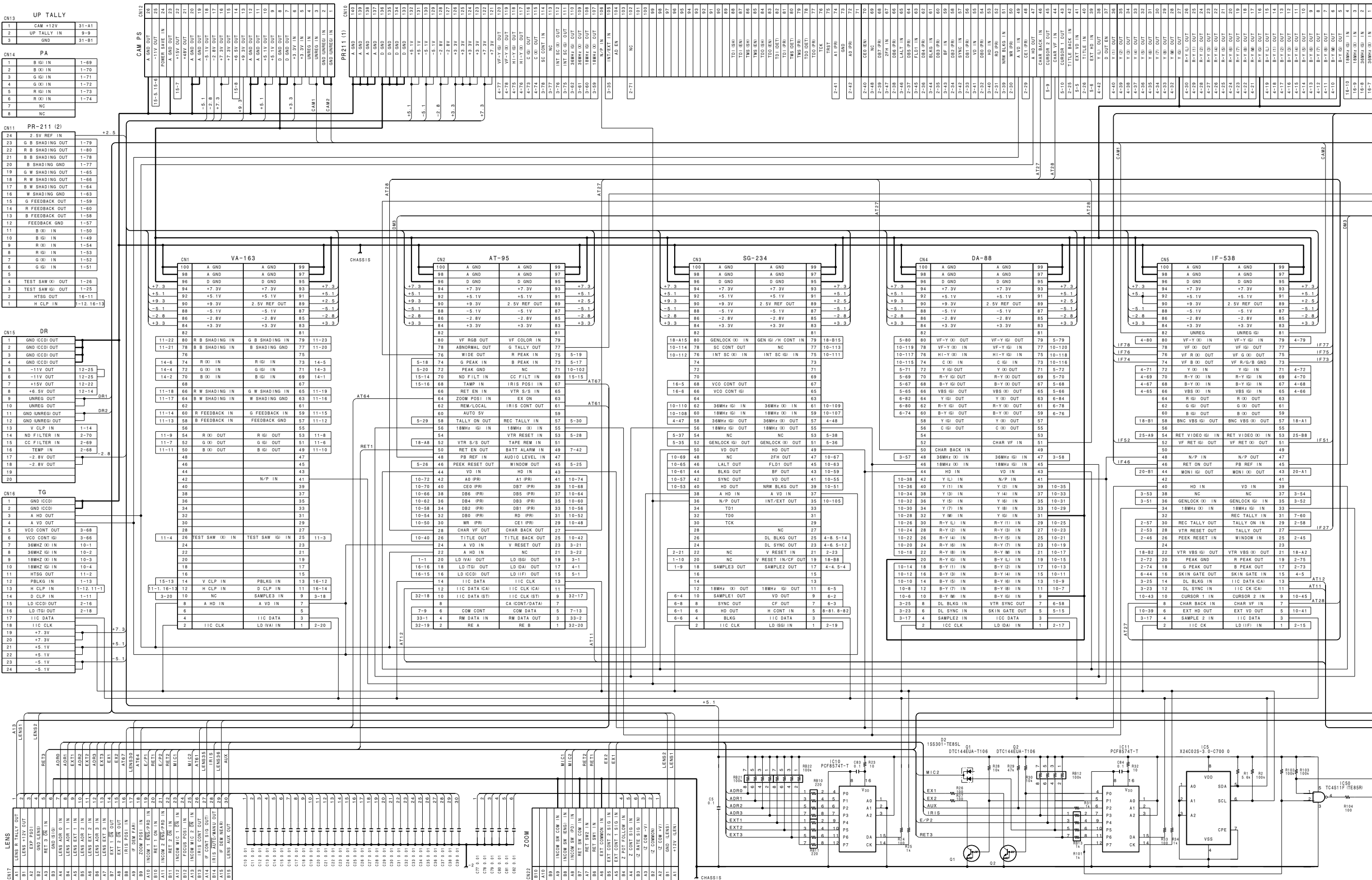
DR			
CN15			
1	GND (CCD) OUT		
2	GND (CCD) OUT		
3	GND (CCD) OUT		
4	GND (CCD) OUT		
5	-11V OUT	12-25	
6	-11V OUT	12-25	
7	+15V OUT	12-22	
8	+6.5V OUT	12-14	
9	UNREG OUT		
10	UNREG OUT		
11	GND UNREG OUT		
12	GND UNREG OUT		
13	V CLP IN	1-14	
14	ND FILTER IN	2-70	
15	CC FILTER IN	2-69	
16	TEMP IN	2-68	
17	-2.8V OUT		
18	-2.8V OUT		
19			
20			

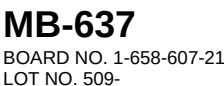
4

TG			
CN16			
1	GND (CCD)		
2	GND (CCD)		
3	A VD OUT		
4	VCO CONT OUT	3-68	
5	VCO CONT OUT	3-66	
6	36MHz (X) IN	10-1	
7	36MHz (G) IN	10-2	
8	36MHz (X) IN	10-3	
9	18MHz (G) IN	10-4	
10	18MHz (G) IN	10-4	
11	HTSG OUT	11-2	
12	PBLKG IN	1-13	
13	H CLP IN	1-12, 11-1	
14	D CLP IN	1-11	
15	LD (CCD) OUT	2-16	
16	LD (TG) OUT	2-18	
17	IIC DATA		
18	IIC CLK		
19	+7.3V		
20	+7.3V		
21	+5.1V		
22	+5.1V		
23	+5.1V		
24	+5.1V		

5

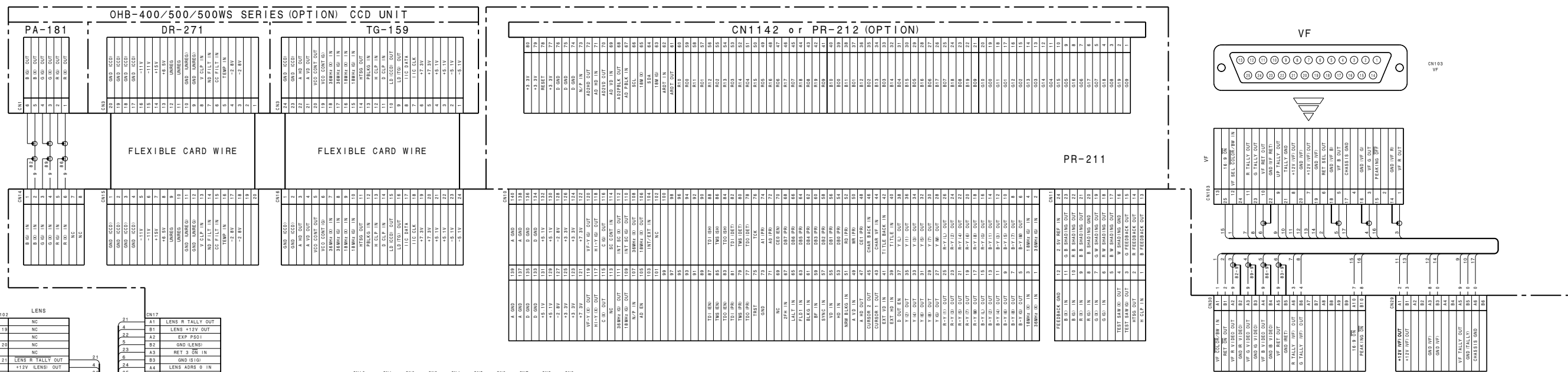
LENS			
CN17			
B1	LENS +12V OUT		
B2	EXP FSDI		
B3	GND (LEND)		
B4	RET 3 ON IN		
B5	GND SIG IN		
B6	LENS EXT 1 IN		
B7	LENS EXT 2 IN		
B8	LENS EXT 3 IN		
B9	LENS EXT 4 IN		
B10	LENS EXT 5 IN		
B11	LENS EXT 6 IN		
B12	LENS EXT 7 IN		
B13	LENS EXT 8 IN		
B14	LENS EXT 9 IN		
B15	LENS EXT 10 IN		
B16	LENS EXT 11 IN		
B17	LENS EXT 12 IN		
B18	LENS EXT 13 IN		
B19	LENS EXT 14 IN		
B20	LENS EXT 15 IN		
B21	LENS EXT 16 IN		
B22	LENS EXT 17 IN		
B23	LENS EXT 18 IN		
B24	LENS EXT 19 IN		
B25	LENS EXT 20 IN		
B26	LENS EXT 21 IN		
B27	LENS EXT 22 IN		
B28	LENS EXT 23 IN		
B29	LENS EXT 24 IN		
B30	LENS EXT 25 IN		
B31	LENS EXT 26 IN		
B32	LENS EXT 27 IN		
B33	LENS EXT 28 IN		
B34	LENS EXT 29 IN		
B35	LENS EXT 30 IN		



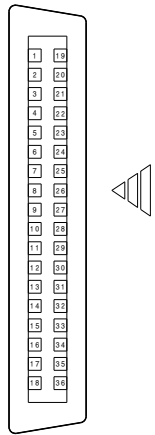


1 **FRAME WIRING**

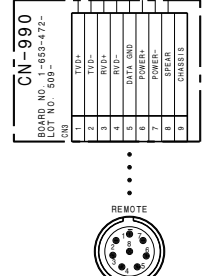
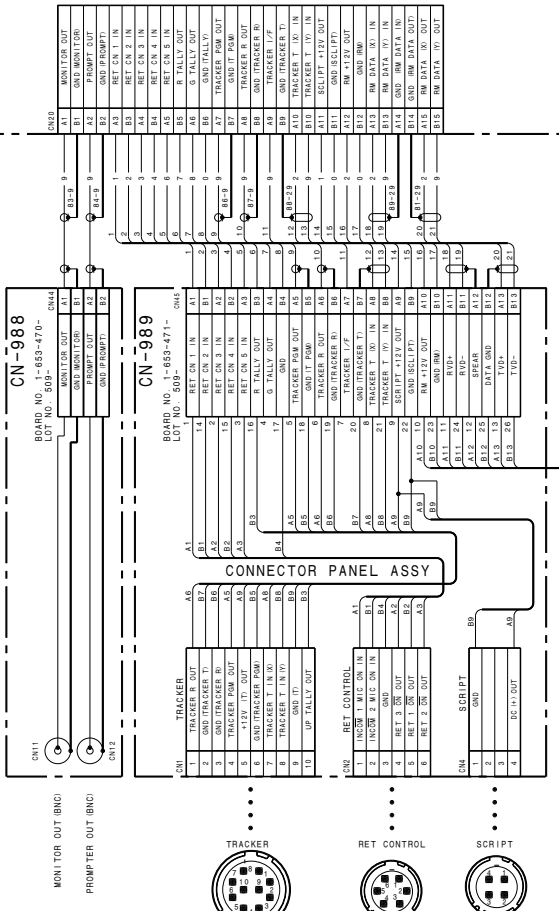
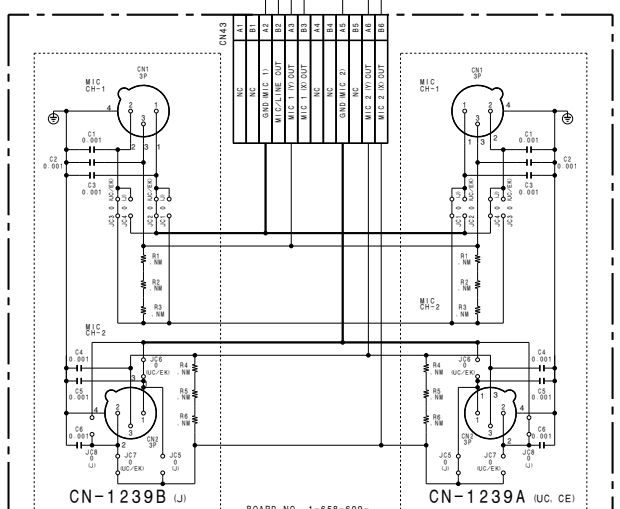
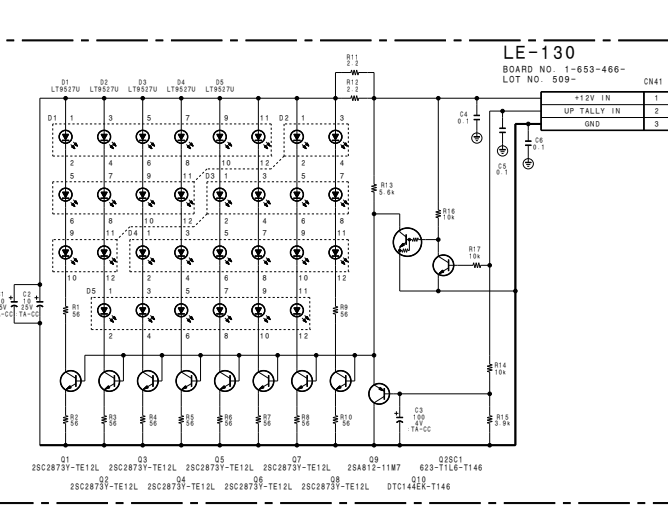
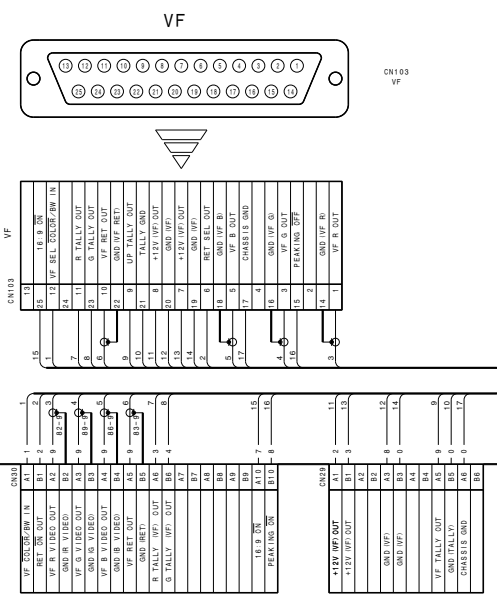
BVP-500 (UC)
BVP-500 (J)
BVP-500P (CE)

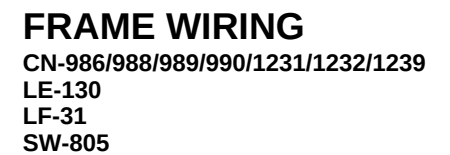


3 **LENS**



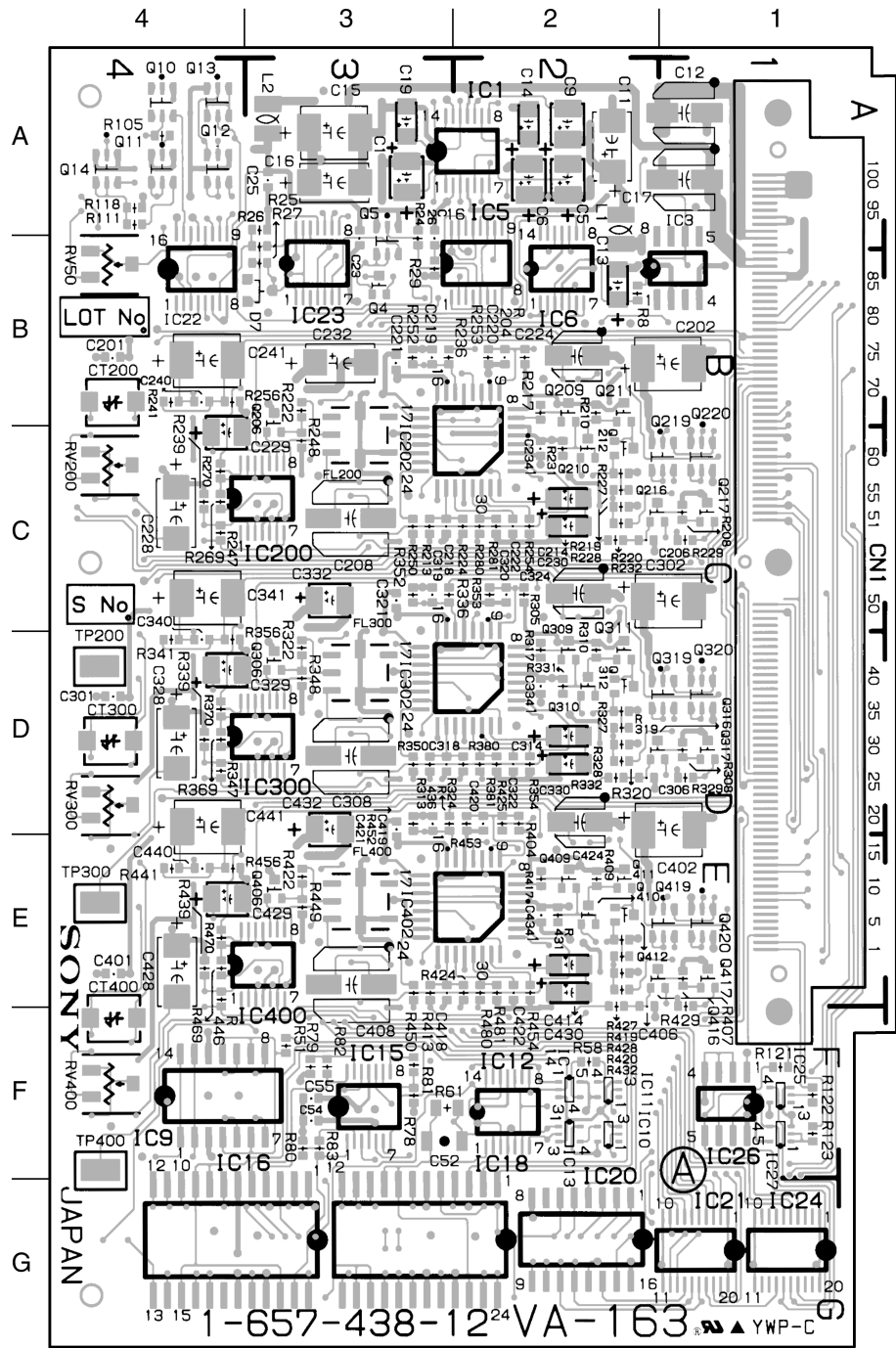
MB-637



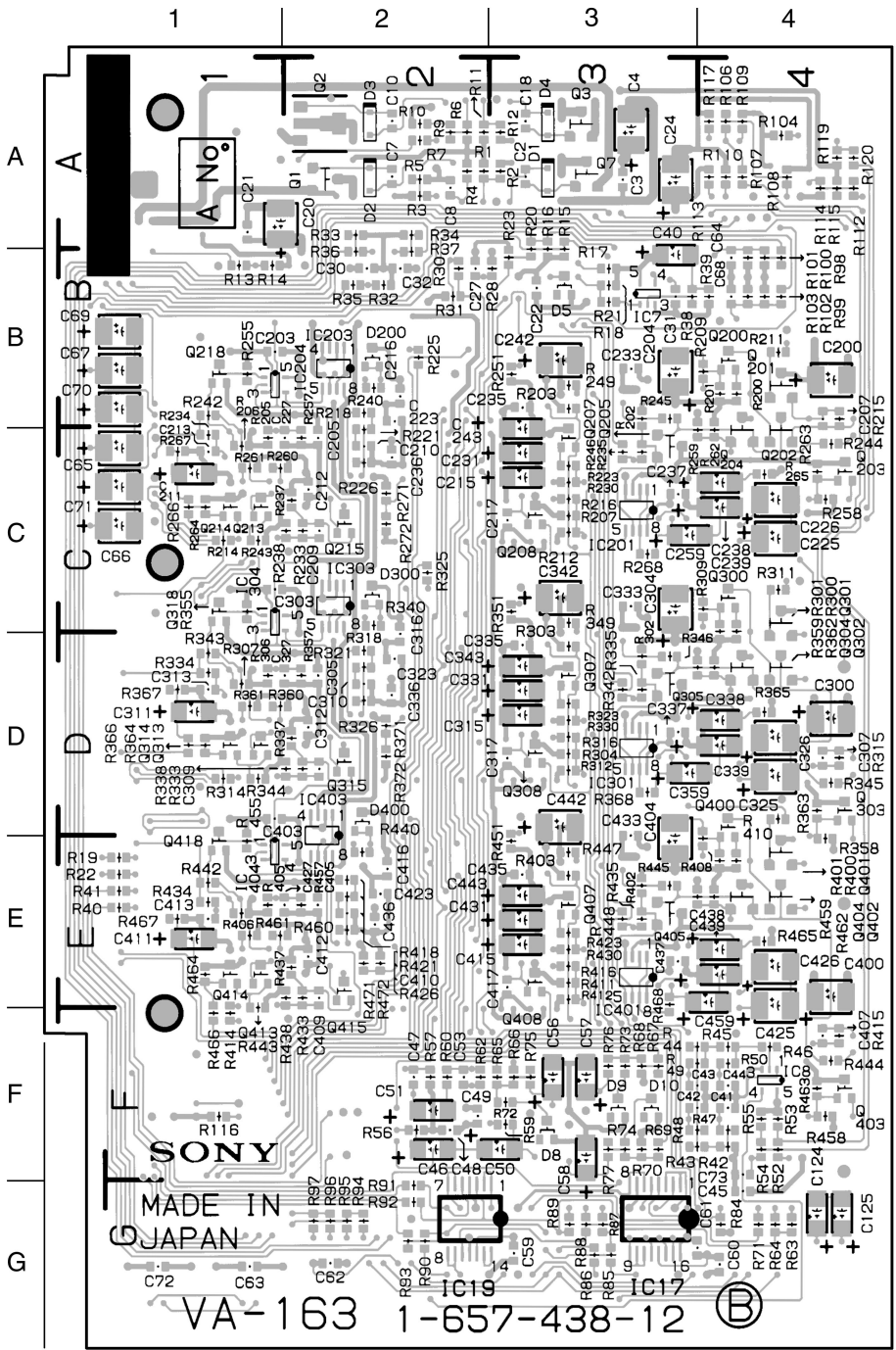


Section 5
Board Layouts

VA-163 BOARD

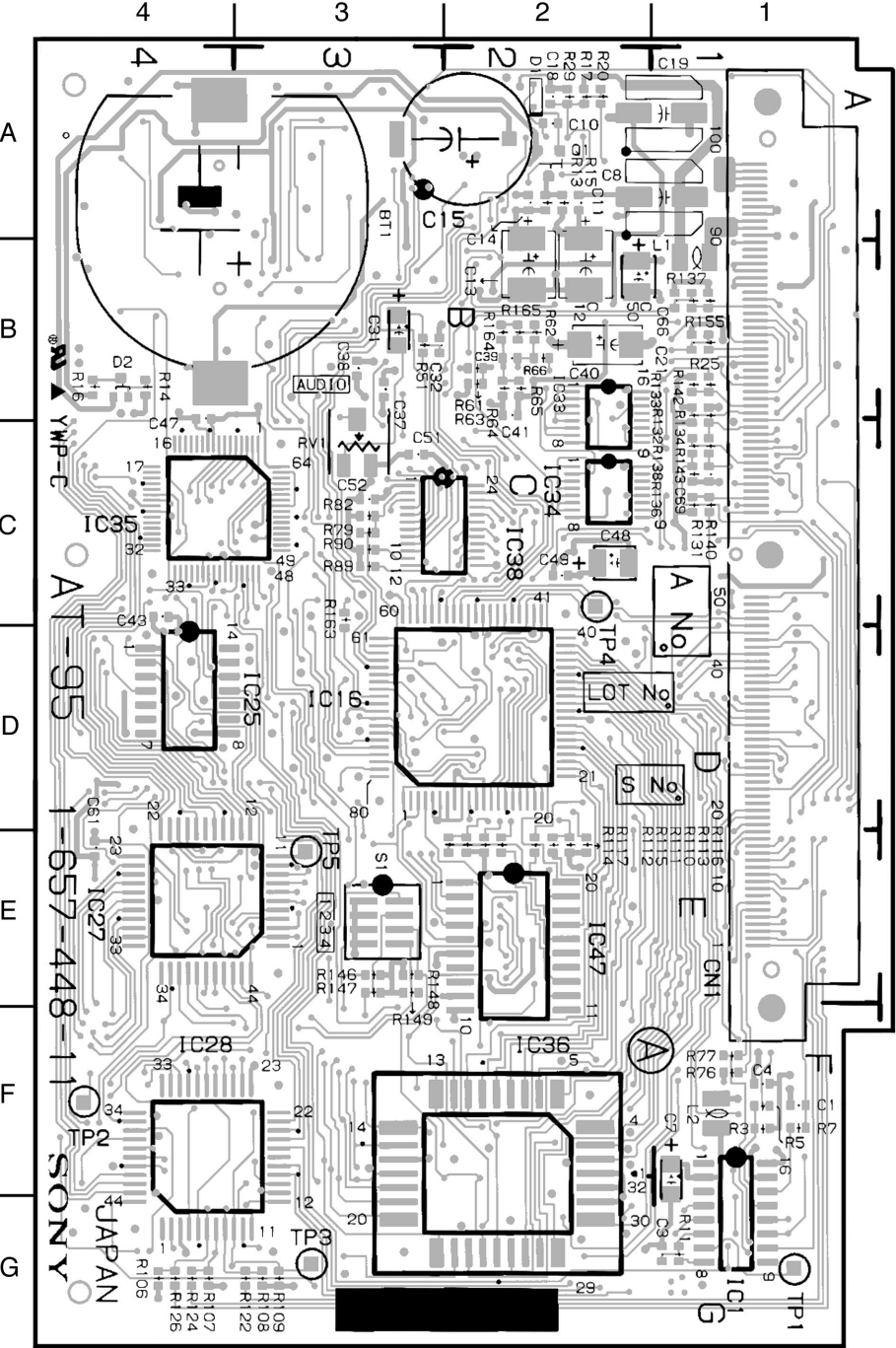


VA-163 - A SIDE -
1-657-438-12, 21

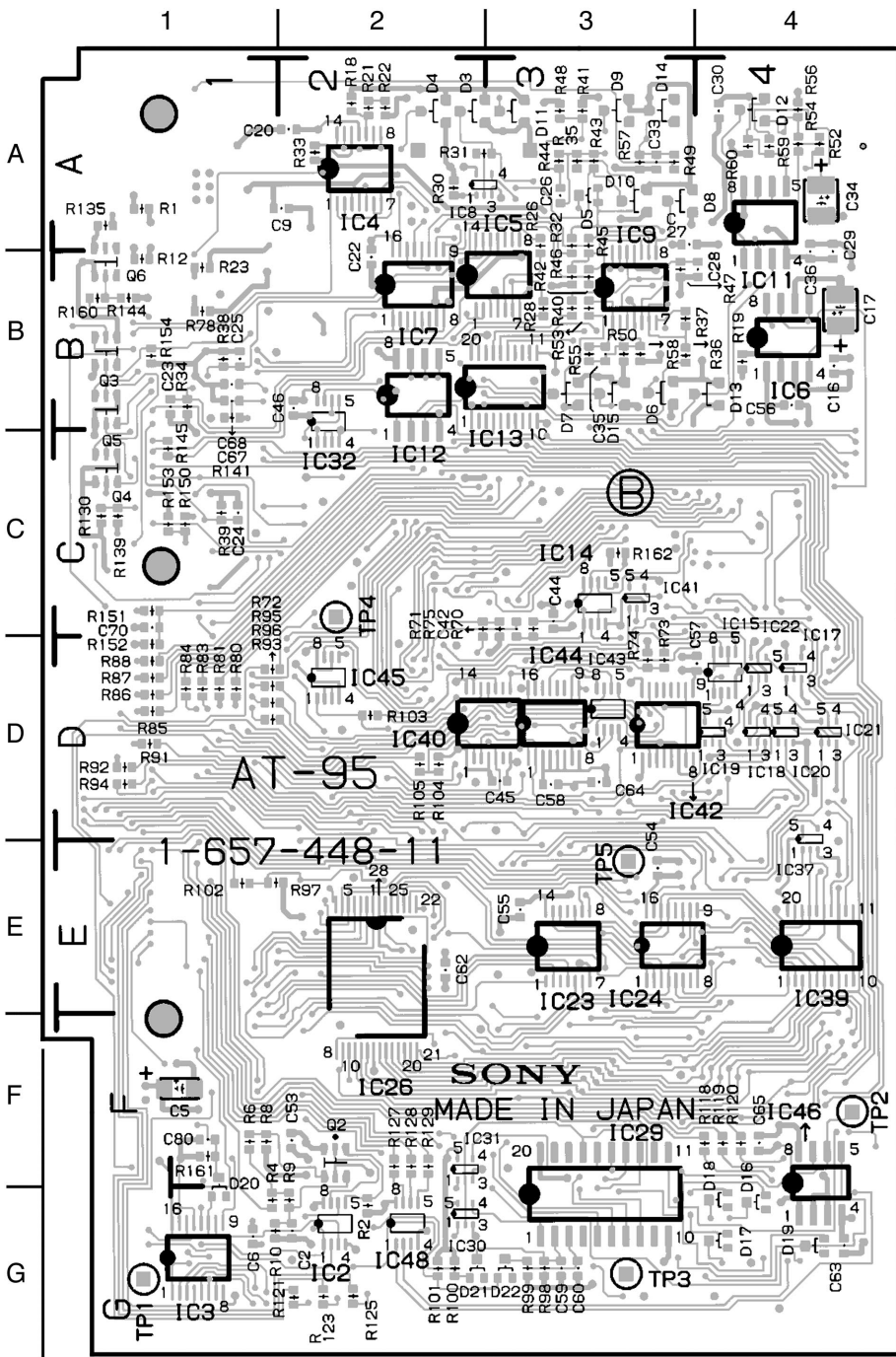


VA-163 - B SIDE -
1-657-438-12, 21

AT-95 BOARD

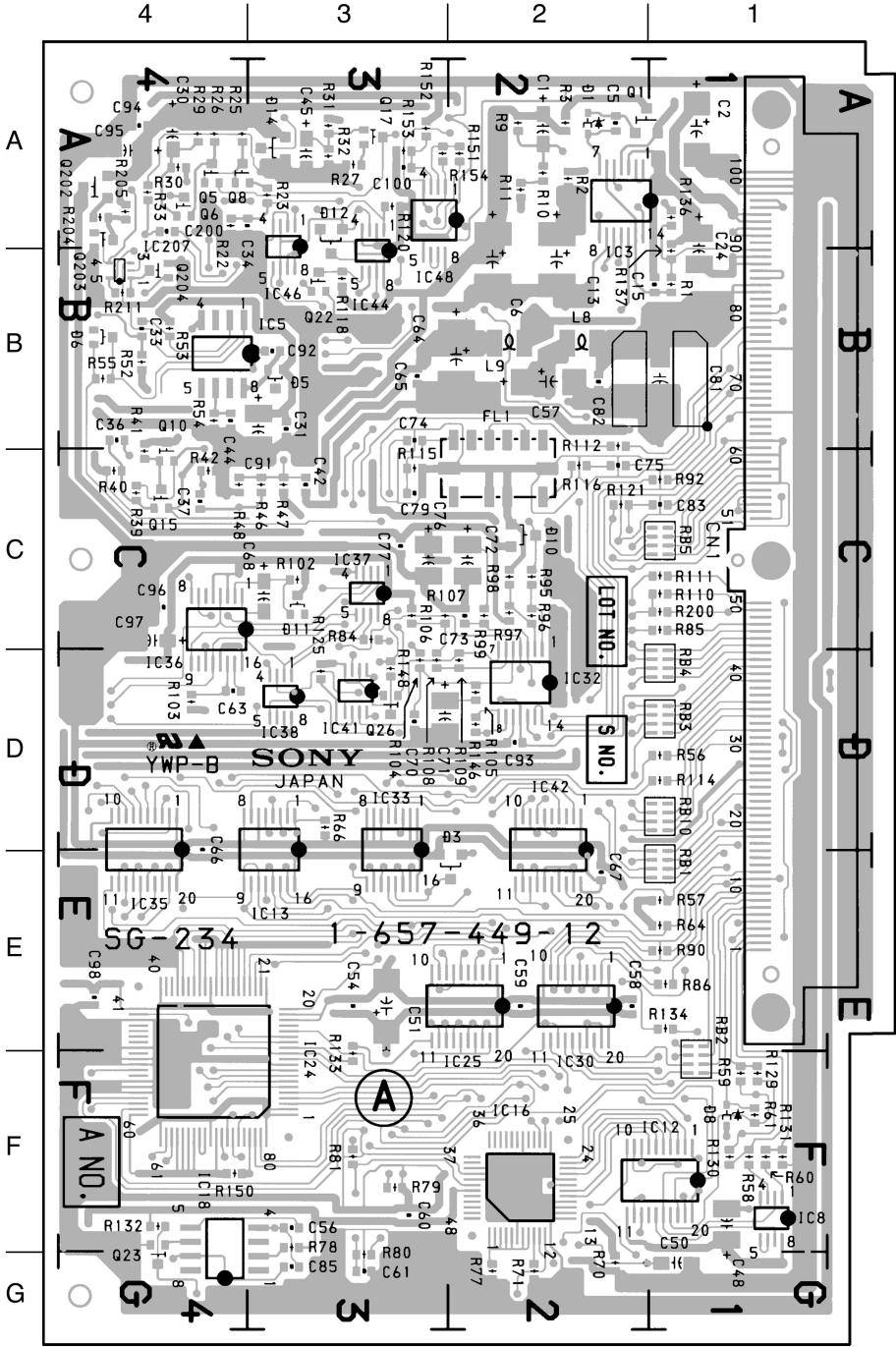


AT-95 - A SIDE -
1-657-448-11, 12, 21

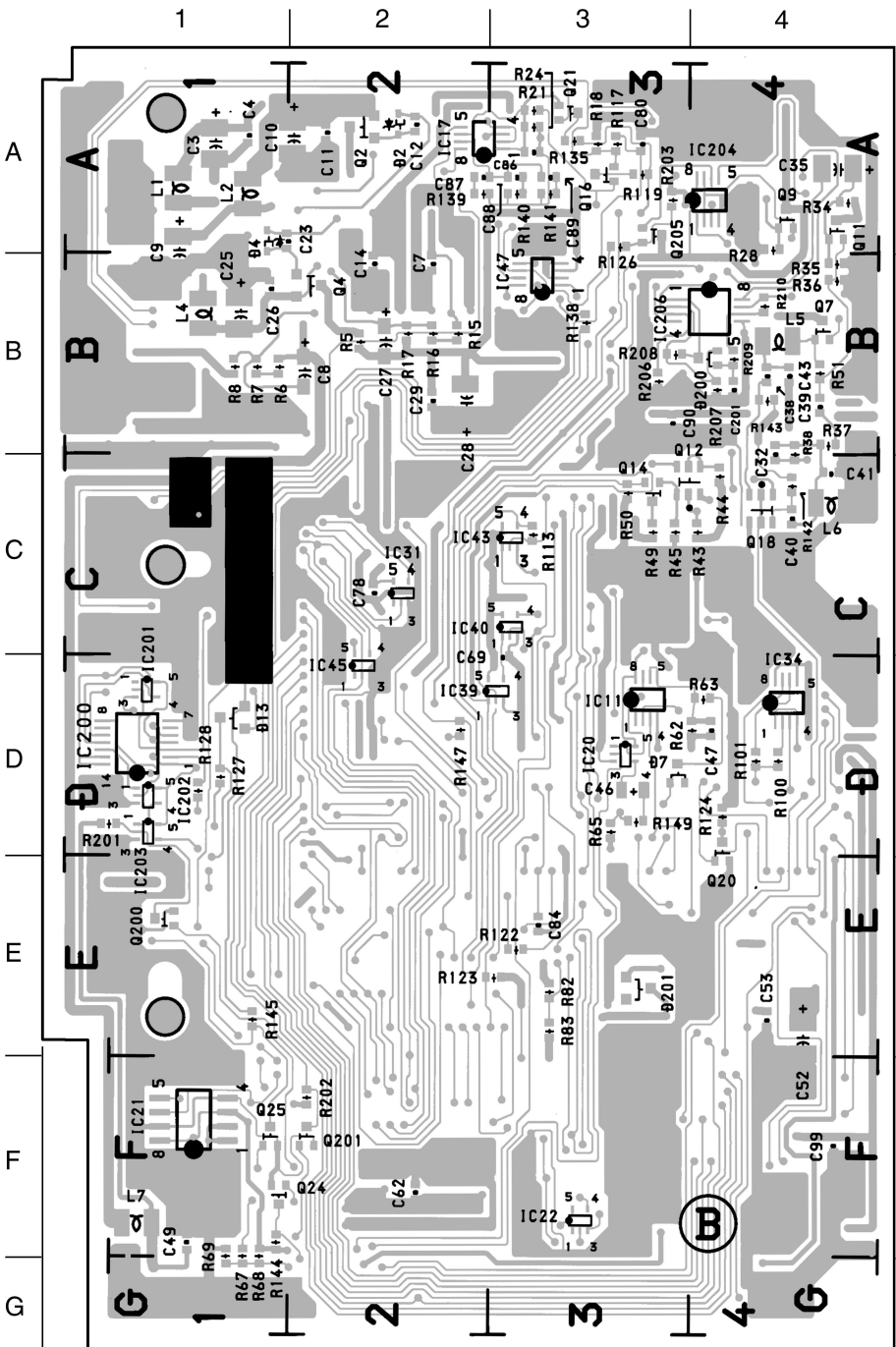


AT-95 - B SIDE -
1-657-448-11, 12, 21

SG-234 BOARD

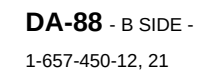


SG-234 - A SIDE -
1-657-449-12, 21

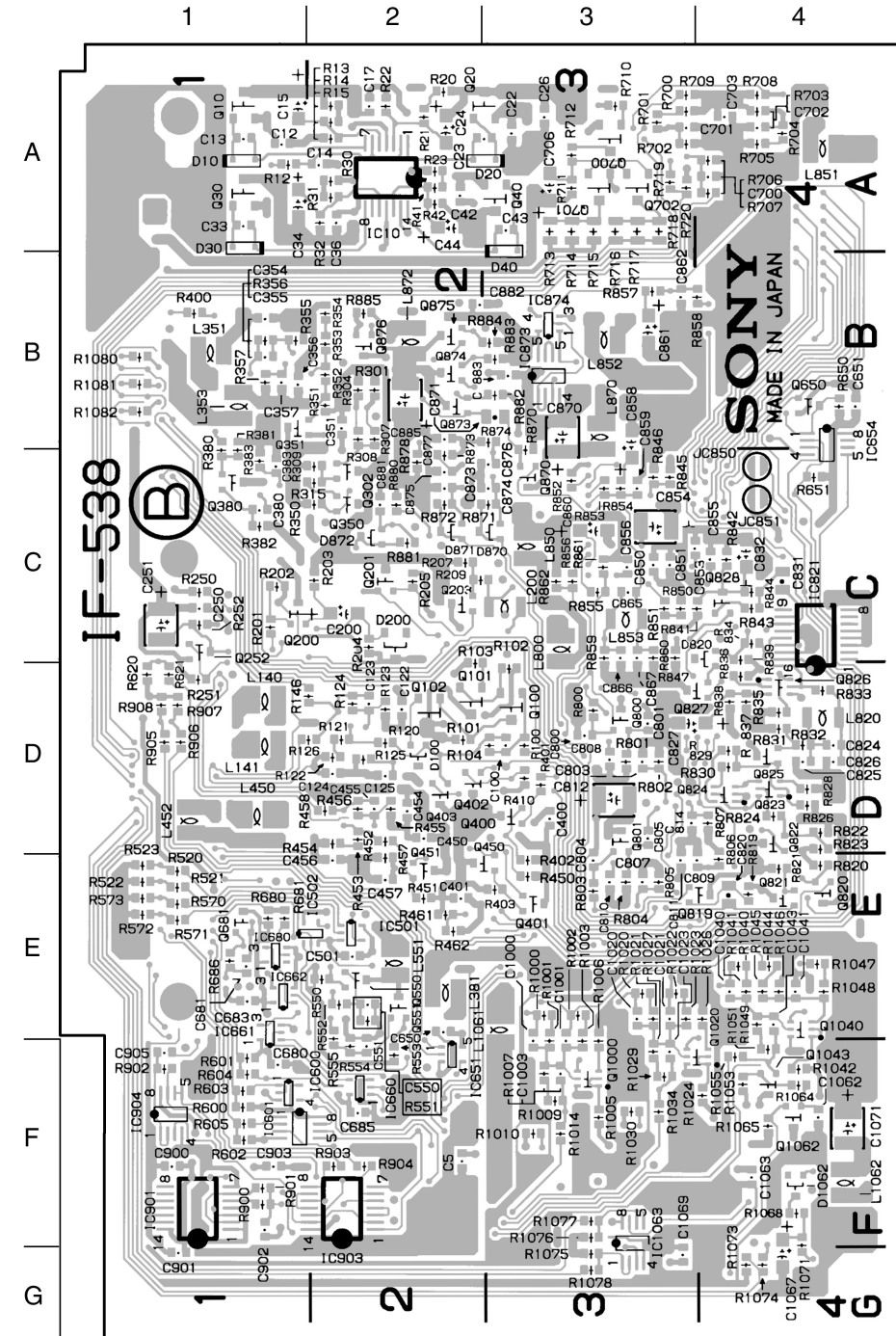


SG-234 - B SIDE -
1-657-449-12, 21

DA-88 - A SIDE -
1-657-450-12, 21

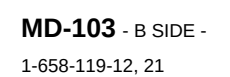


IF-538 - A SIDE -
1-658-610-12, 21

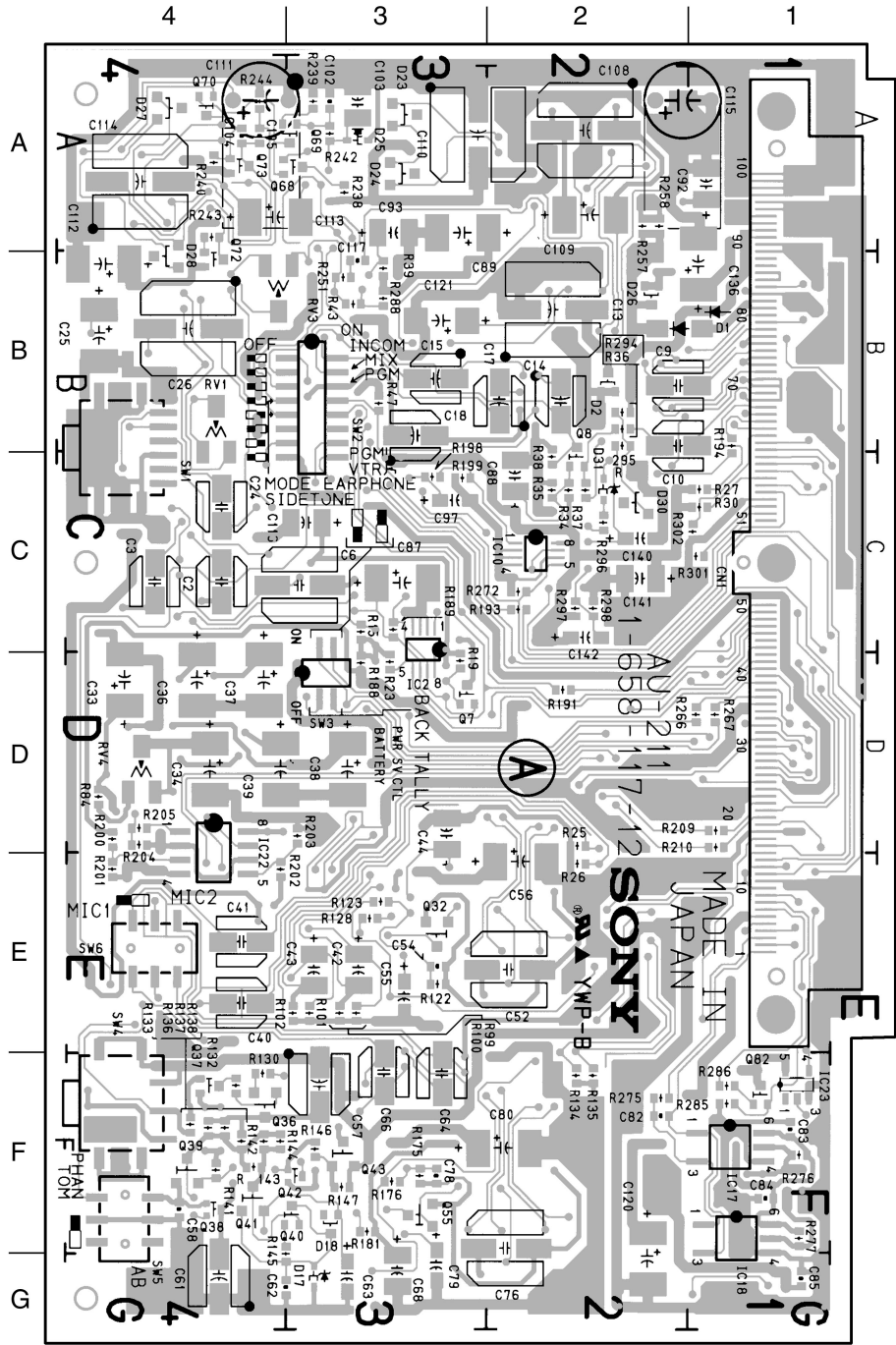


IF-538 - B SIDE -
1-658-610-12, 21

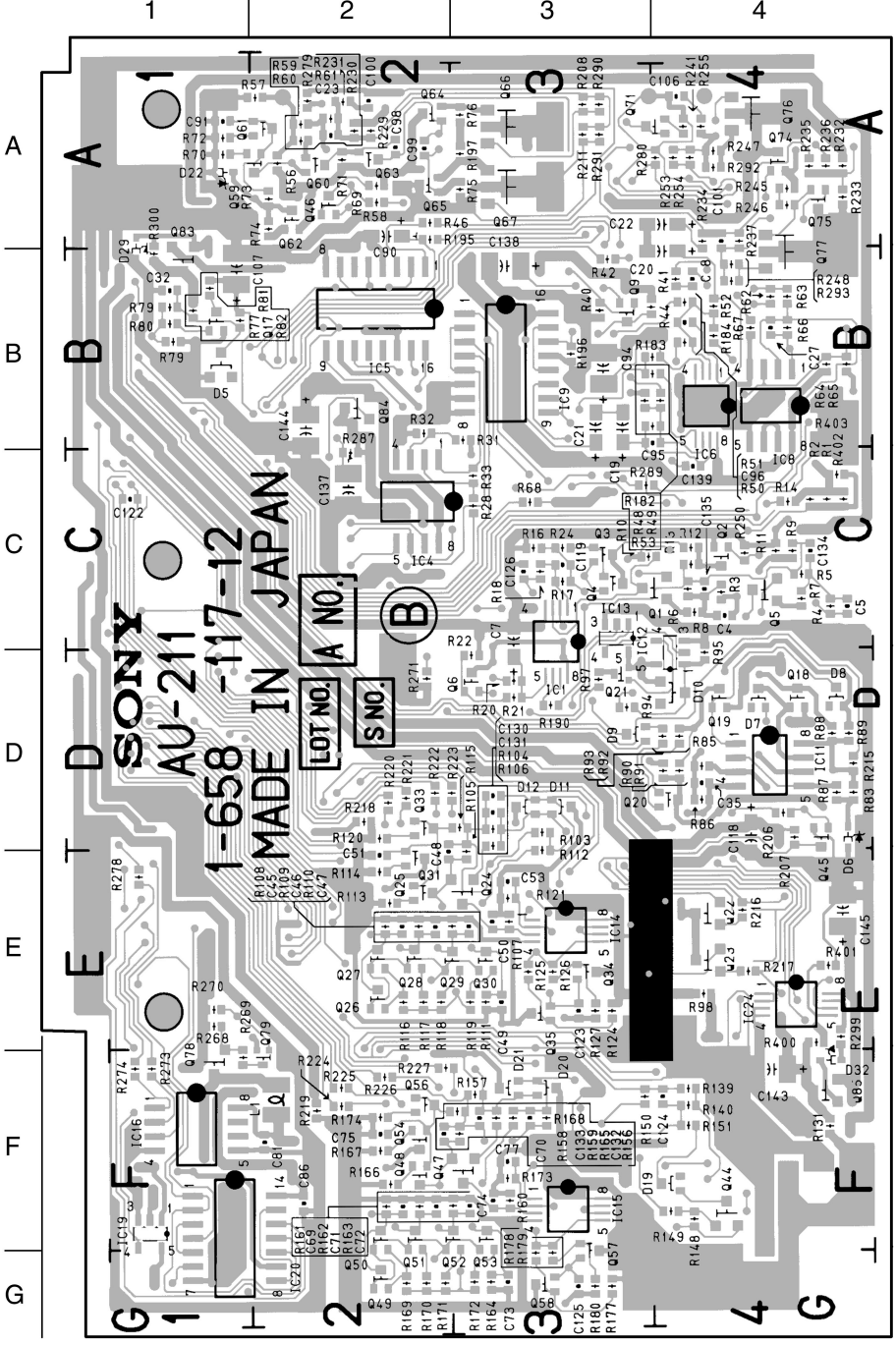
MD-103 - A SIDE -
1-658-119-12, 21



AU-211 BOARD

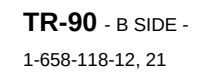


AU-211 - A SIDE -
1-658-117-12, 21

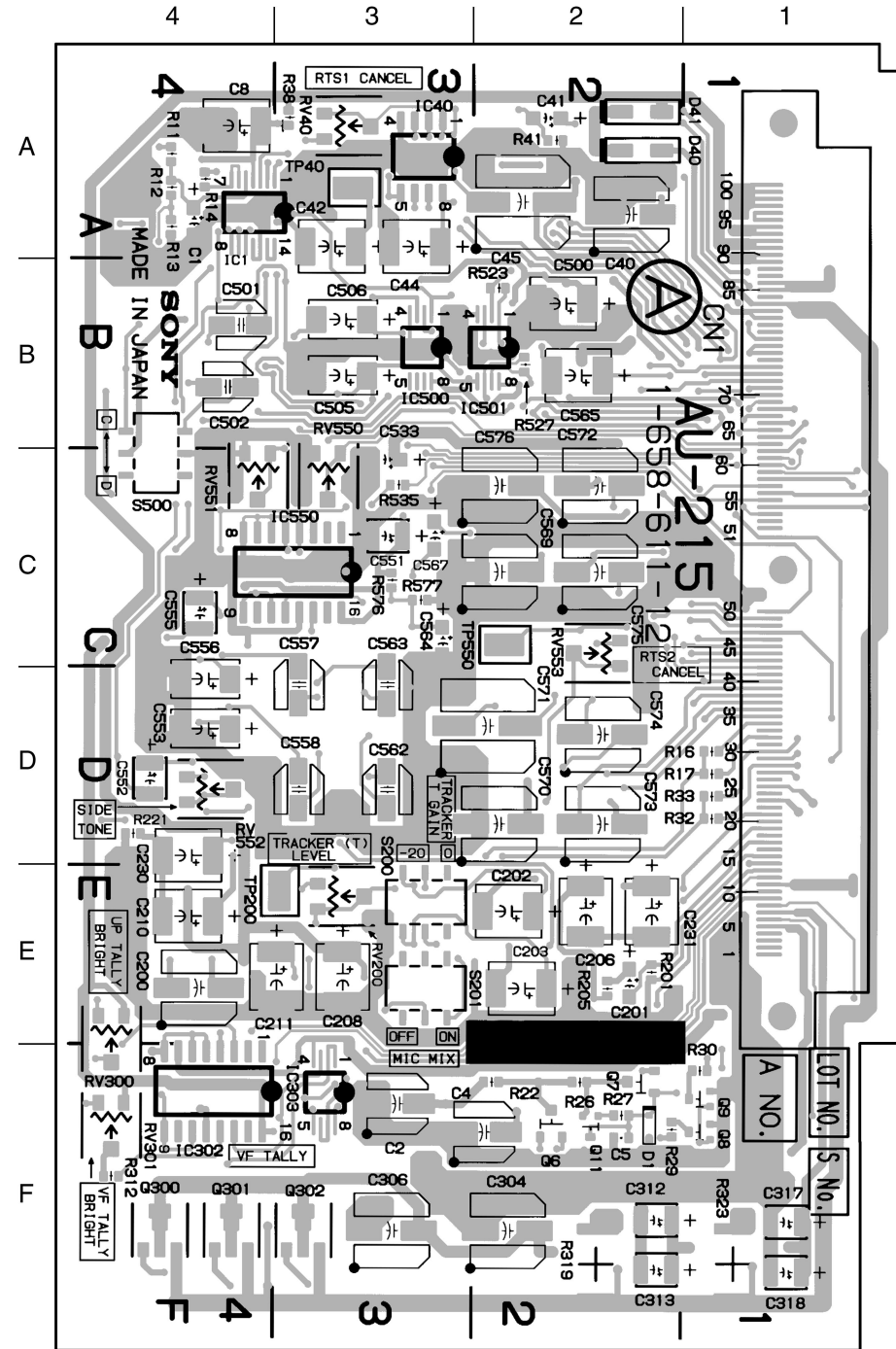


AU-211 - B SIDE -
1-658-117-12, 21

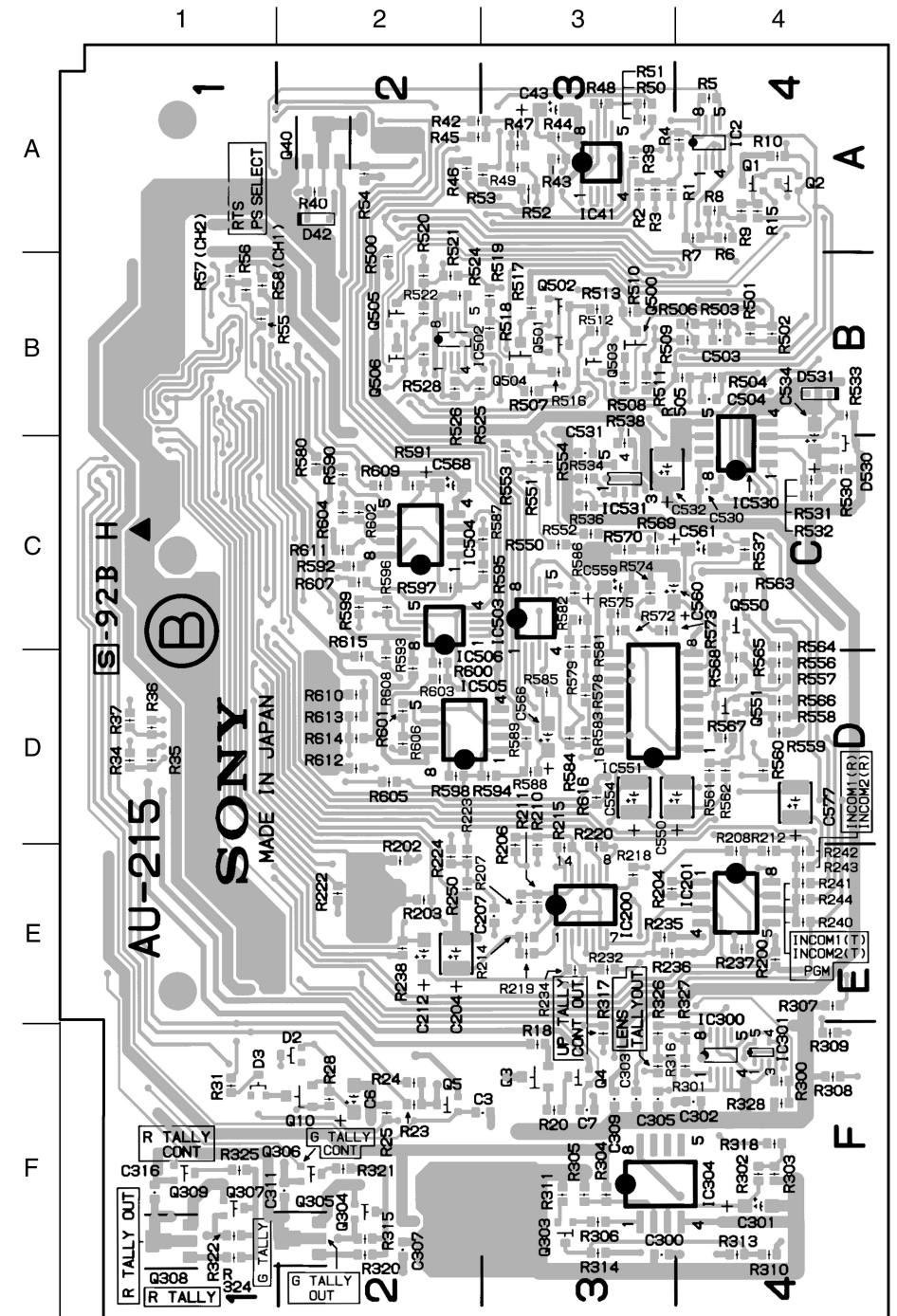
TR-90 - A SIDE -
1-658-118-12, 21



AU-215 BOARD

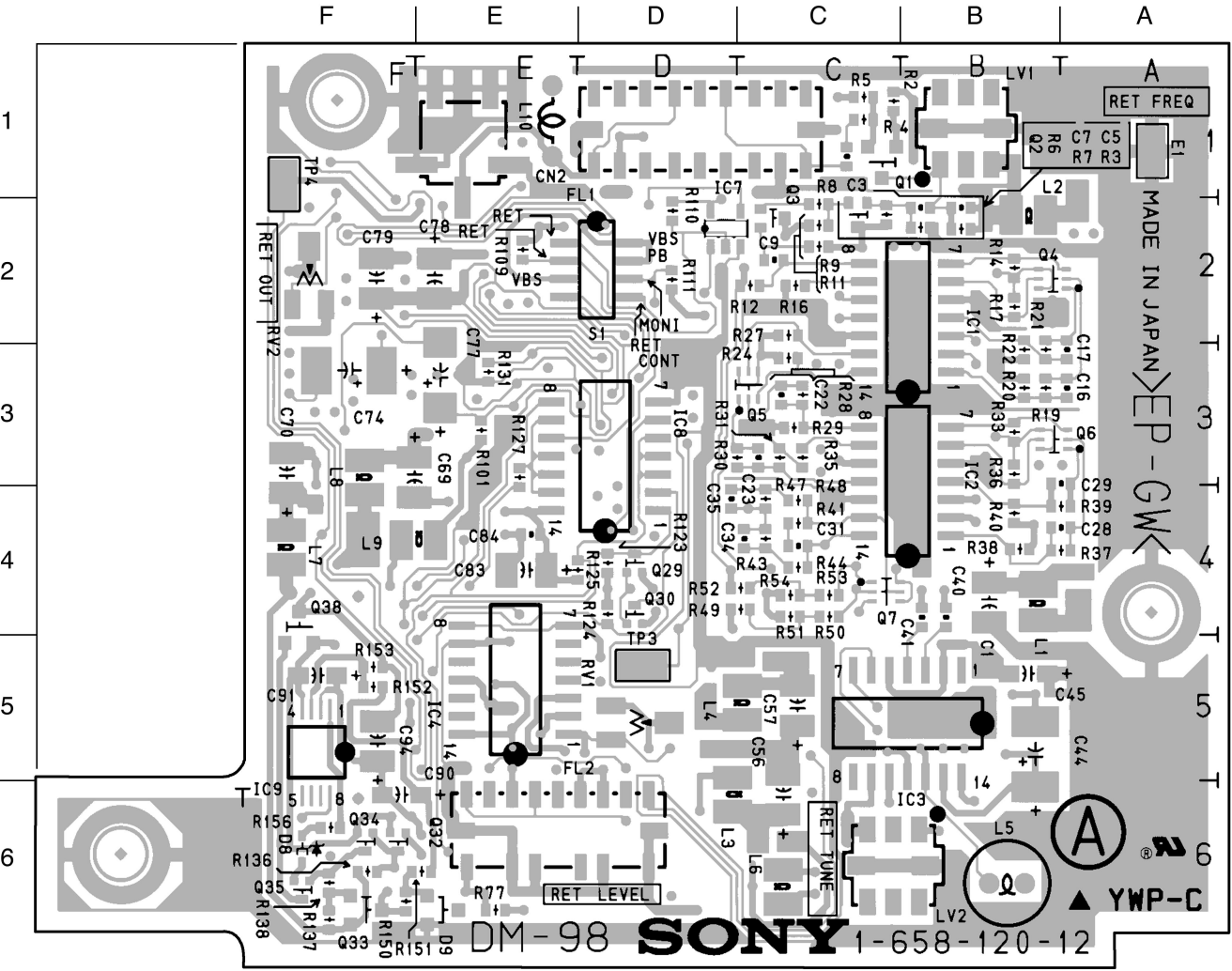


AU-215 - A SIDE -
1-658-611-12, 21

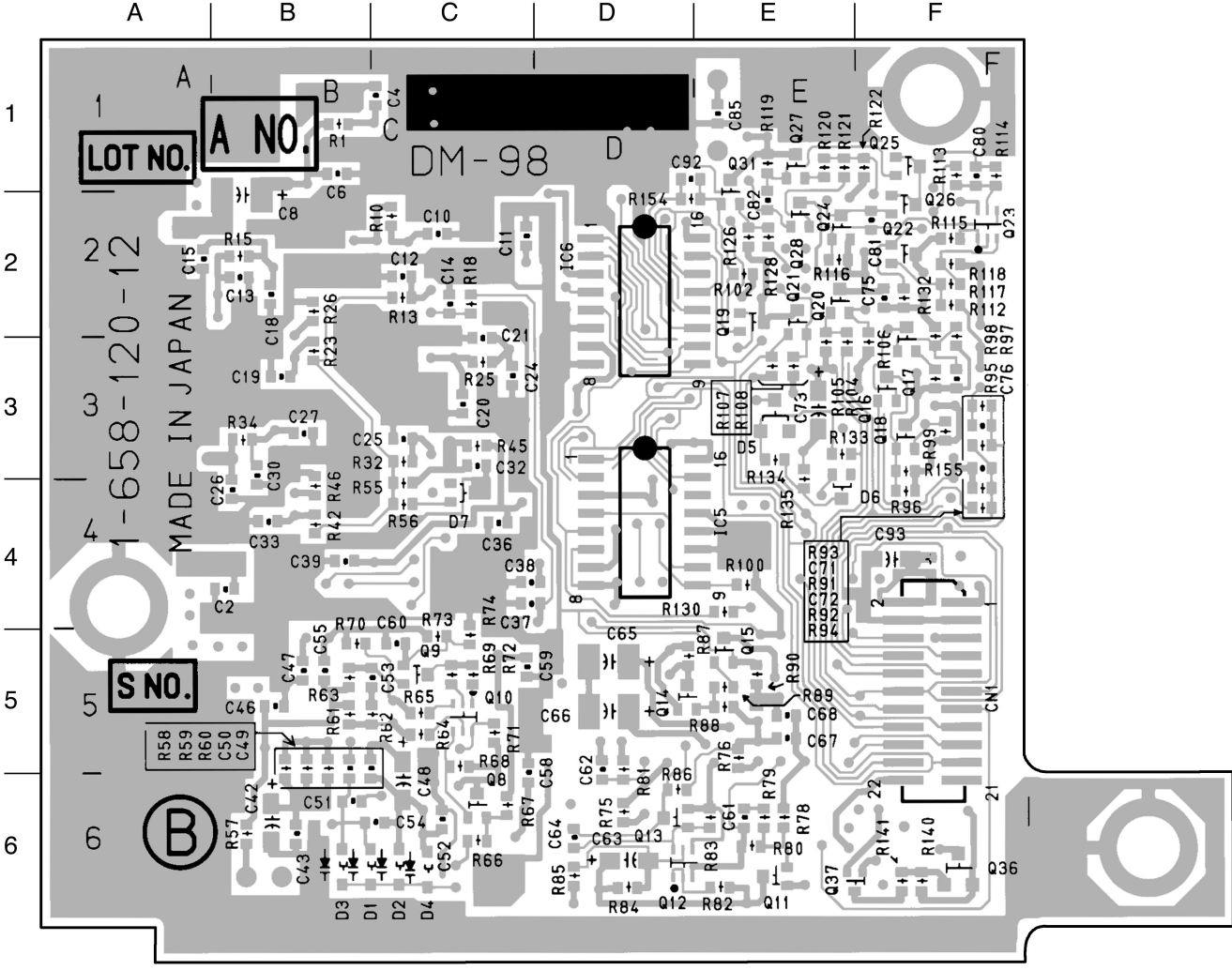


AU-215 - B SIDE -
1-658-611-12

DM-98 BOARD

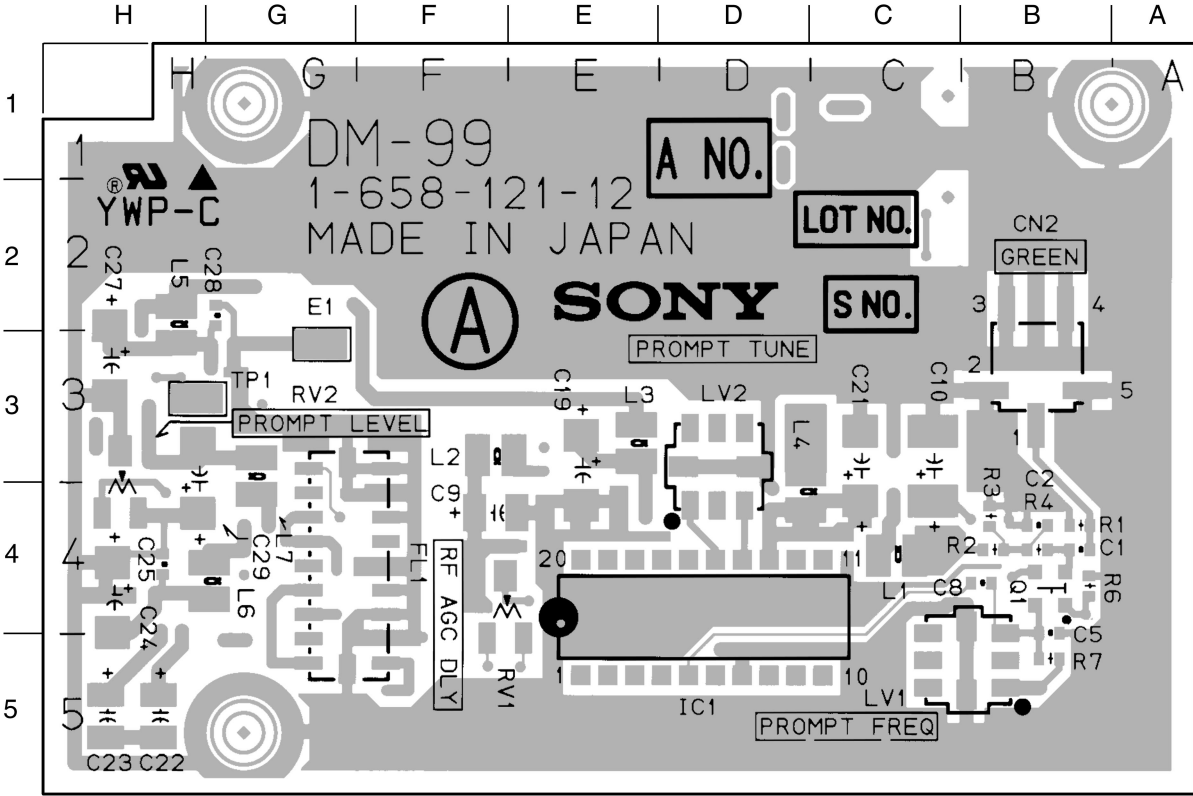


DM-98 - A SIDE -
1-658-120-12, 21

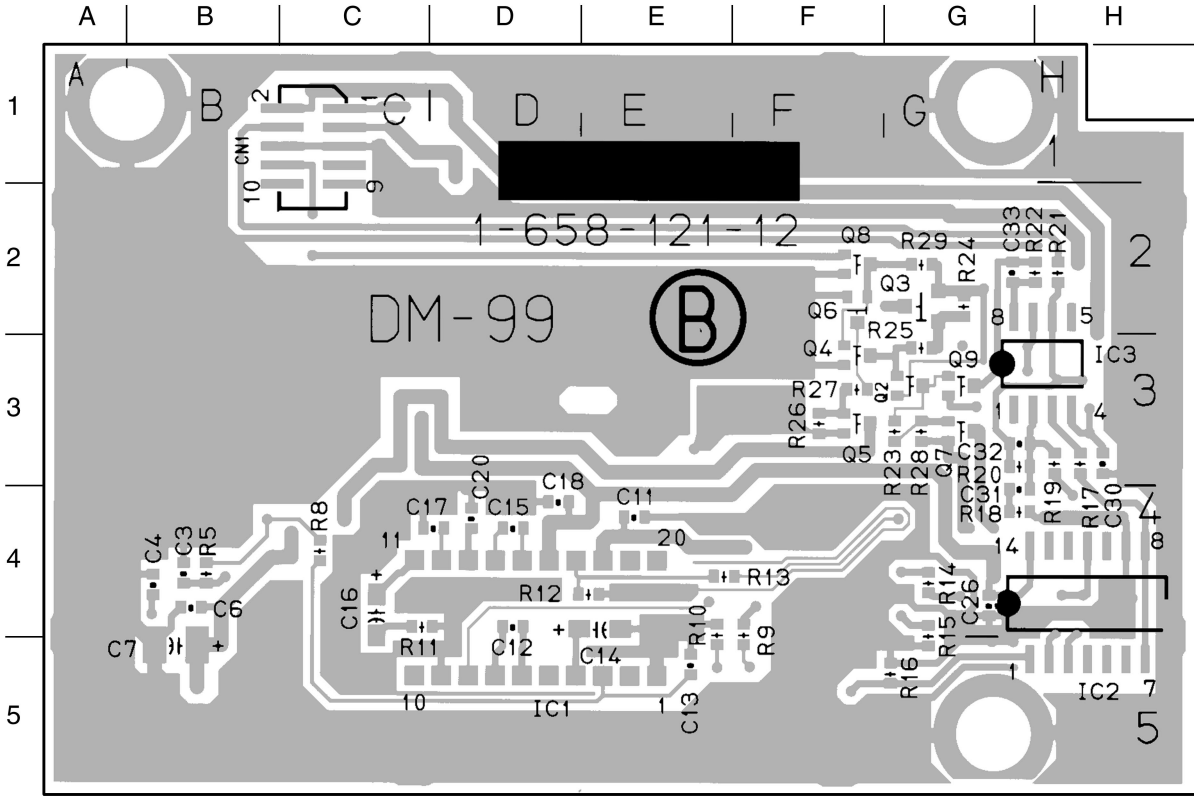


DM-98 - B SIDE -
1-658-120-12, 21

DM-99 BOARD

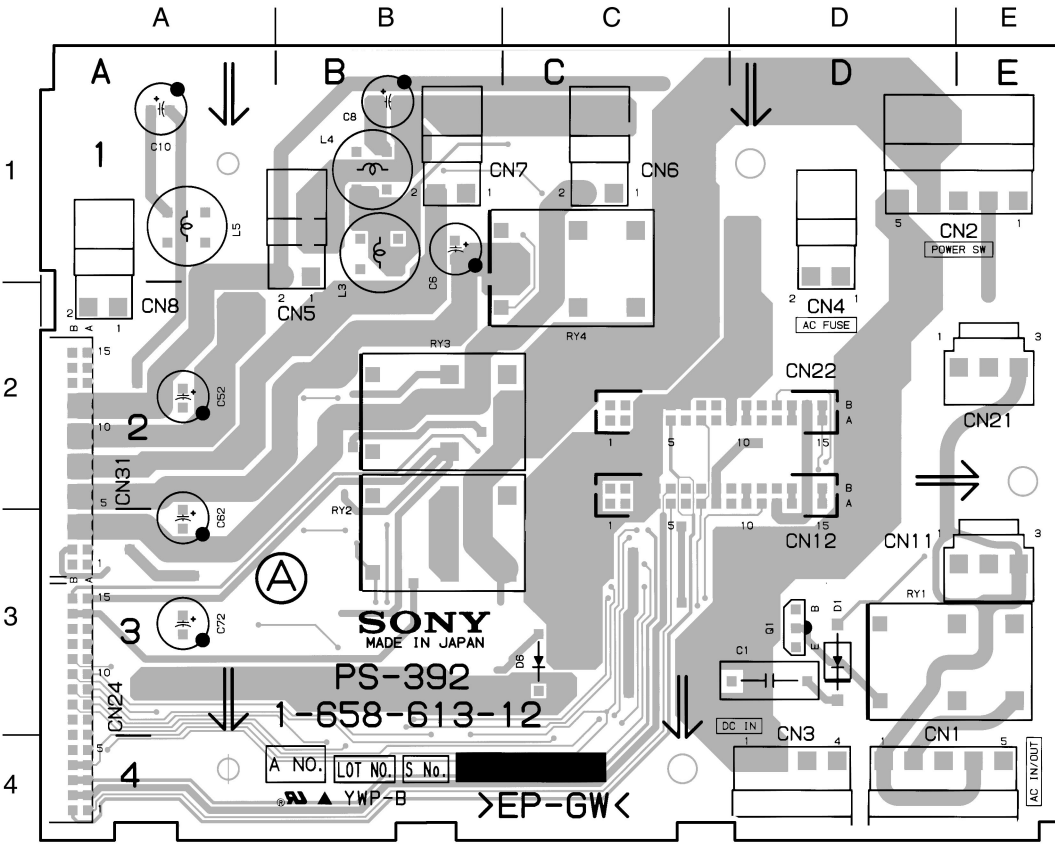


DM-99 - A SIDE -
1-658-121-12, 21

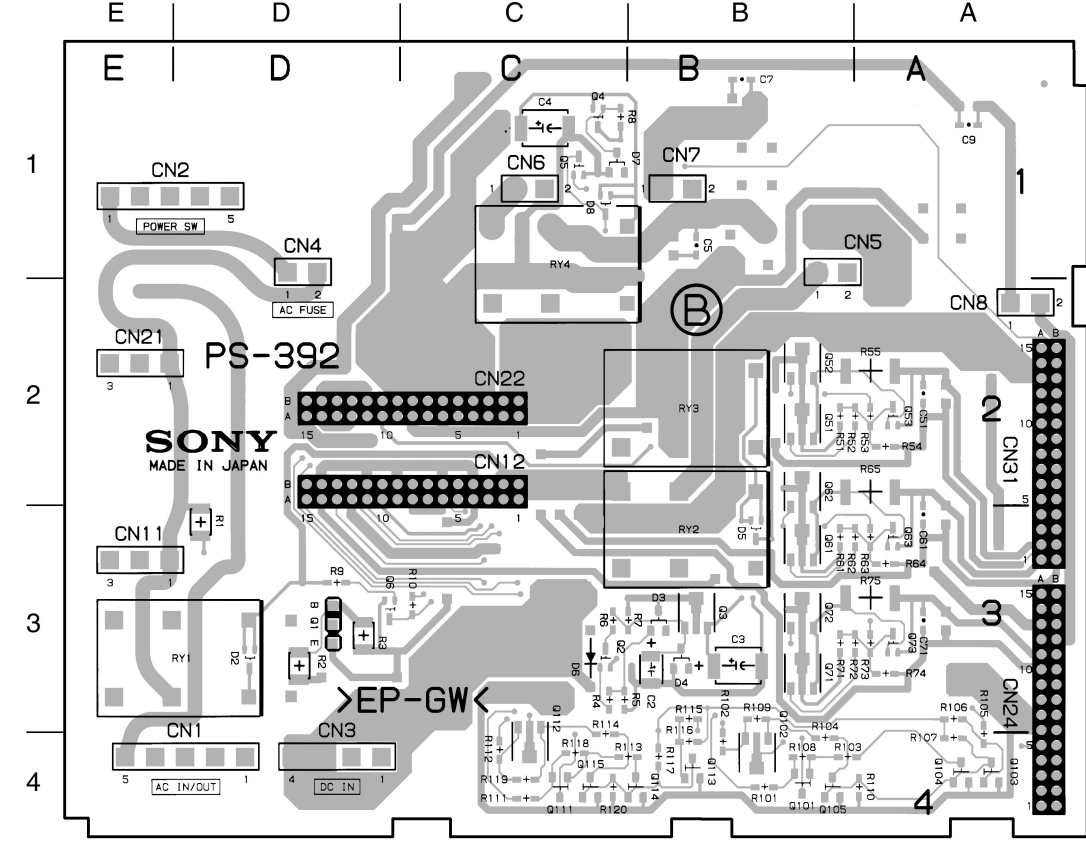


DM-99 - B SIDE -
1-658-121-12, 21

PS-392 BOARD

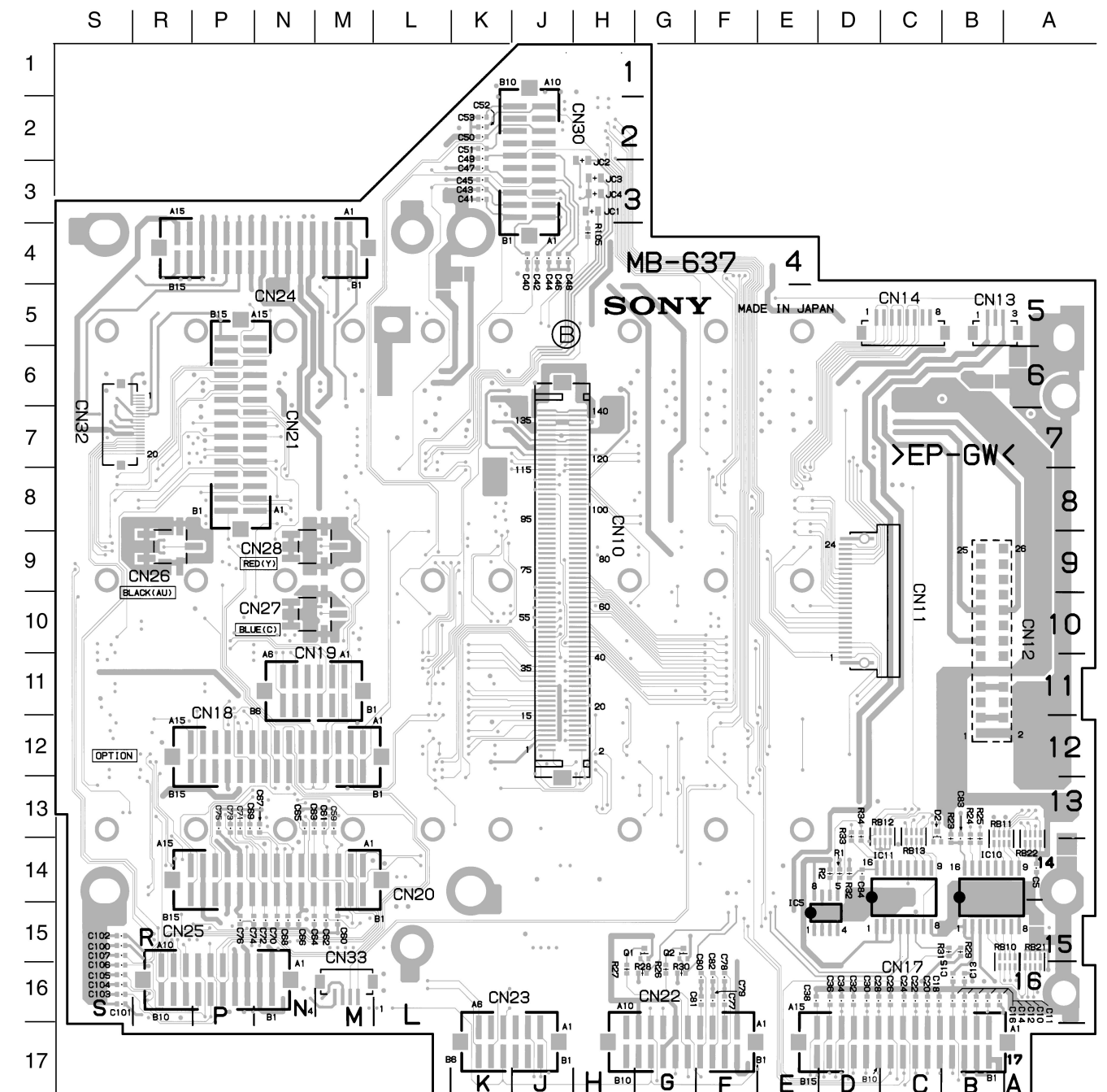


PS-392 - A SIDE -
1-658-613-12, 21



PS-392 - B SIDE -
1-658-613-12, 21

5-27



5-27

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BVP-500 (J,UC)
BVP-500P (CE) J,E
3-190-371-02 Volume 2

Sony Corporation
Broadcast Products Company

Printed in U.S.A.
1996. 7 76
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Published by Broadcast Products Company